



RRB Group D 2024

Level-1 · CEN 08/2024 · General Science · Question Paper Compilation

English

All 101 Shifts (Sets) · General Science Section · Official Answer Key

About this Compilation

This booklet compiles all **101 shift papers** of the **RRB Group D (Level-1) 2024** examination (CEN 08/2024) in **English (General Science)** section only), with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions are grouped by subtopic within each section, so similar questions sit together.
- Diagram and wide-table questions appear at the end of their section at full width.
- The correct answer is highlighted in green with a tick.

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General Science

25 Questions • Answer Key

Q1 General Science

What is the main role of micelles in the cleansing action of soap?

- A. To increase the surface tension of water
- B. To reduce the hardness of water
- C. To produce lather with water
- D. To trap and remove oil and dirt from clothes ✓

Q2 General Science

Which of the following plant tissue performs photosynthesis?

- A. Chlorenchyma ✓
- B. Xylem
- C. Phloem
- D. Sclerenchyma

Q3 General Science

When water and nutrients are available, algae grow and multiply rapidly by the process of _____.

- A. budding
- B. pollination
- C. fragmentation ✓
- D. spore formation

Q4 General Science

Asthma primarily affects which part of the respiratory system?

- A. Diaphragm
- B. Bronchi and bronchioles ✓
- C. Alveoli
- D. Trachea

Q5 General Science

The functional group which does NOT contain oxygen hetero atom is:

- A. ketone
- B. alcohol
- C. halo alkane ✓
- D. carboxylic acid

Q6 General Science

What happens when a zinc rod is placed in aqueous copper sulphate solution?

- A. No chemical change observed.
- B. The temperature of the solution falls.
- C. The blue colour of the copper sulphate solution fades. ✓
- D. Heat is required to start the reaction.

Q7 General Science

Which of the following is NOT used for expressing the concentration of a solution?

- A. Mass by mass percentage of a solution
- B. Volume by Volume percentage of a solution
- C. Volume by Mass percentage of a solution ✓
- D. Mass by volume percentage of a solution

Q8 General Science

Which of the following describes an example of uniform circular motion?

- A. A train moving on its track
- B. A ball thrown vertically upwards
- C. A car accelerating on its way
- D. A fan blade rotating at constant speed ✓

Q9 General Science

Which of the following options best describes the term Culture Fishery?

- A. Farming of the fishes ✓
- B. Catching fishes from marine water
- C. Capturing fishes from artificial resources
- D. Capturing fishes from natural resources

Q10 General Science

Through which method of cell division are the diploid chromosomes divided into haploid gametes?

- A. Binary Fission
- B. Meiosis ✓
- C. Amitosis
- D. Mitosis



Q11 General Science

The motion of a satellite orbiting the Earth in a circular path at constant speed is a classic example of uniform circular motion. What property of this motion prevents its acceleration from being zero?

- A. The total mechanical energy is conserved, necessitating acceleration.
- B. The object's mass continually changes due to orbital dynamics.
- C. The speed is too high for the gravitational force to sustain a constant velocity.
- D. The direction of motion changes continuously at every point, meaning the velocity is changing. ✓

Q12 General Science

Which of the following life processes is important to bring variation in species?

- A. Transportation
- B. Sexual reproduction ✓
- C. Autotrophic nutrition
- D. Heterotrophic nutrition

Q13 General Science

A body is dropped from a height. If it falls for 3.0 s and $g = 10 \text{ m/s}^2$, its final velocity (v) is _____.

- A. 40 m/s
- B. 30 m/s ✓
- C. 20 m/s
- D. 10 m/s

Q14 General Science

The power of a lens is defined as:

- A. The product of its focal length and refractive index
- B. The ratio of image distance to object distance
- C. The square of its focal length
- D. The reciprocal of its focal length in meters ✓

Q15 General Science

What happens when a naphthalene ball is burnt in a metal plate in open space?

- A. It burns with a blue flame with black soot deposited on the metal plate.
- B. It burns with a blue flame.
- C. It burns with yellow flame with no deposit on the metal plate.
- D. It burns with a yellow flame with black soot deposited on the metal plate. ✓

Q16 General Science

Which of the following metals is extracted in the middle of the activity series?

- A. Sodium
- B. Potassium
- C. Gold
- D. Iron ✓

Q17 General Science

When a thick glass slab is placed over printed matter, the letters appear raised. This is due to _____.

- A. Refraction of light ✓
- B. Polarization of light
- C. Total internal reflection
- D. Scattering of light

Q18 General Science

Statement 1: The potential difference is measured in volts.
Statement 2: One volt is equal to one newton per coulomb.
Which of the following is true?

- A. Only Statement 2 is correct.
- B. Only Statement 1 is correct. ✓
- C. Both Statements 1 and 2 are incorrect.
- D. Both Statements 1 and 2 are correct.

Q19 General Science

Which of the following statements is correct?

- A. Work done can be positive or negative depending on the direction of force. ✓
- B. Work done does not depend on force or displacement.
- C. Work done can only be negative.
- D. Work done can only be positive.



Q20 General Science

Which of the following statements best explains the Law of Constant Proportions?

- A. Mass can neither be created nor destroyed in a chemical reaction.
- B. Atoms can be divided into smaller particles during a reaction.
- C. A chemical compound always contains the same elements in the same proportion by mass. ✓
- D. Elements are always found in random ratios in a compound.

Q21 General Science

Which poultry are birds farmed to produce eggs?

- A. Common carp
- B. Layers ✓
- C. Milch
- D. Broilers

Q22 General Science

The frequency of a sound wave is 50 Hz. How much time will it take to complete one wave?

- A. 50 s
- B. 5 s
- C. 0.02 s ✓
- D. 0.2 s

Q23 General Science

During reproduction, why is it important to create DNA copies?

- A. For inheritance of traits ✓
- B. For respiration
- C. For digestion
- D. For blood circulation

Q24 General Science

The fractional atomic mass of chlorine is due to which of the following?

- A. Presence of ions
- B. Presence of isotopes ✓
- C. Its compound nature
- D. Experimental error

Q25 General Science

A coil has a resistance of $44\ \Omega$. If it is connected across a 220 V supply, what is the power consumed by the coil?

- A. 110 W
- B. 0.2 W
- C. 5 W
- D. 1100 W ✓



General Science

25 Questions • Answer Key

Q1 General Science

Which structure is used by pea plant to climb up other plants?

- A. Sucker
- B. Runner
- C. Shoot
- D. Tendrils



Q2 General Science

A convex lens is also called a converging lens because:

- A. it does not bend light rays at all
- B. it brings parallel rays to a focus at a point
- C. it always forms virtual images
- D. it diverges rays of light away from each other



Q3 General Science

The splitting of a unicellular organism into two equal daughter cells containing identical genetic material is termed as which of the following?

- A. Binary fission
- B. Budding
- C. Spore formation
- D. Conjugation



Q4 General Science

What is the location of the cell wall in an organism?

- A. Just inside the plasma membrane in a plant cell
- B. Just outside the plasma membrane in a plant cell
- C. Just inside the plasma membrane in an animal cell
- D. Just outside the plasma membrane in an animal cell



Q5 General Science

An object is dropped from a height of 78.4 m. What is the time taken to reach the ground? (Use $g = 9.8 \text{ m/s}^2$)

- A. 2 s
- B. 5 s
- C. 4 s
- D. 6 s



Q6 General Science

Which one of the following correctly represents Mendel's conclusion about inheritance?

- A. Each trait is controlled by two factors.
- B. Each traits is controlled by one factor.
- C. Each trait is controlled by one chromosome.
- D. Each trait is controlled by three genes.



Q7 General Science

An uprooted plant was left in the sun. After a few hours, the plant looked wilted and weak. What could be the most likely reason?

- A. Food translocation through phloem began
- B. Water conduction through xylem was started
- C. Food translocation through xylem was blocked
- D. Water conduction through xylem was blocked



Q8 General Science

Which of the following methods is part of the fresh initiatives in irrigation to improve water availability for crops?

- A. Manuring and chemical spraying
- B. Drip irrigation and crop rotation
- C. Sprinkler irrigation and ploughing
- D. Rainwater harvesting and watershed management



Q9 General Science

Which of the following is a result of increasing the pressure on a gas?

- A. Increase in kinetic energy
- B. Increase in inter-particle space
- C. Evaporation of the gas
- D. Decrease in inter-particle space



Q10 General Science

Select the correct feature about sexual reproduction in organisms.

- A. It produces offspring exactly similar to the parent(s).
- B. It passes the DNA of only one parent to the offspring.
- C. It combines the DNA of two parents in the offspring. ✓
- D. It produces a large number of offspring.

Q11 General Science

In the connective tissues of animals, the fat cells are arranged into lobules, which are separated by partitions of:

- A. collagen and elastin fibres ✓
- B. reticular fibres and plasma
- C. skeletal fibres and tendons
- D. yellow fibres and lymph

Q12 General Science

If the length of a wire is doubled and its cross-sectional area is halved, its resistance will become:

- A. Twice the original
- B. Half the original
- C. Four times the original ✓
- D. One-fourth the original

Q13 General Science

Which of the following correctly matches a measurable property of matter with its SI unit?

- A. Density – Kilogram per cubic metre ✓
- B. Volume – Cubic centimetre
- C. Temperature – Calorie
- D. Pressure – Newton

Q14 General Science

A heavy wooden block is pushed across a rough floor. The applied force is gradually increased:

1. At first, the block does not move.
2. Then, at a certain force, the block just begins to slide.
3. Finally, when the block is sliding, it moves with constant velocity.

Which of the following correctly describes the force situation in these three stages?

- A. Stage 1 – Balanced, Stage 2 – Unbalanced, Stage 3 – Balanced ✓
- B. Stage 1 – Unbalanced, Stage 2 – Unbalanced, Stage 3 – Balanced
- C. Stage 1 – Balanced, Stage 2 – Balanced, Stage 3 – Unbalanced
- D. Stage 1 – Unbalanced, Stage 2 – Balanced, Stage 3 – Balanced

Q15 General Science

Which of the following is the best example of conversion of chemical energy into heat energy?

- A. A battery lighting a bulb
- B. Burning of wood ✓
- C. A motor running on electricity
- D. Solar cooker heating food

Q16 General Science

Which of the following is NOT an application of ultrasound?

- A. Cleaning the objects
- B. Regular hearing tests ✓
- C. Medical imaging
- D. Detecting cracks in metal blocks

Q17 General Science

Corrosion of metals is a process in which:

- A. metals gain weight due to reaction with acids
- B. metals change their colour permanently
- C. metals are converted to their oxide, sulphide or carbonate by reaction with environmental agents ✓
- D. metals melt at low temperature



Q18 General Science

Concentrated sulphuric acid can be regarded as a dehydrating agent because it removes water from which of the following?

A. Glucose



B. Sodium hydroxide

C. Ammonia gas

D. Propane

Q19 General Science

The processes used for removing the gangue from the ore are based on the differences between which properties of the gangue and the ore?

A. Refractive index

B. Only physical

C. Chemical or physical



D. Only chemical

Q20 General Science

The characteristic feature(s) of carbon, that lead to the formation of its large number of organic compounds is:

A. both tetravalency and catenation



B. only tetravalency

C. only catenation

D. solubility

Q21 General Science

The increase in which of the following factor(s) will increase the resistance of a conductor?

(i) Temperature of the conductor

(ii) Length of the conductor

(iii) Area of cross-section of the conductor

A. Both (i) and (ii)



B. Only (iii)

C. Only (i)

D. Both (ii) and (iii)

Q22 General Science

Why does a cricket player lower his hands while catching a fast-moving ball?

A. To increase the acceleration of the ball

B. To increase the force acting on the ball

C. To reduce the momentum of the ball

D. To increase the time of impact so that the force on the hands is reduced

**Q23 General Science**

According to the New Cartesian Sign Convention, if a light ray travels from the object to the lens, the object is always placed such that:

A. The object distance (u) is always positive

B. The object is placed to the left of the lens



C. The light falls on the lens from the right-hand side

D. The object is always placed above the principal axis

Q24 General Science

What is common between the reaction of metal sodium carbonate and sodium bicarbonate with hydrochloric acid?

A. Carbon monoxide is released

B. Hydrogen gas is released

C. Hydrogen carbonate is formed

D. Sodium chloride is formed

**Q25 General Science**

${}^{40}_{18}\text{Ar}$ and ${}^{40}_{20}\text{Ca}$ are a pair of:

A. isoelectronic

B. isotopes

C. isobars



D. isotones



General Science

25 Questions • Answer Key

Q1 General Science

When we hit a table lightly, the sound produced is soft because the:

- A. speed of sound decreases
- B. wavelength becomes shorter
- C. amplitude of vibration is small ✓
- D. frequency of vibration is low

Q2 General Science

Which of the following cell organelles have enough surface area for ATP-generating chemical reactions?

- A. Vacuoles
- B. Mitochondria ✓
- C. Lysosomes
- D. Cell wall

Q3 General Science

Which of the following human diseases can be transmitted during sexual act?

- A. Cancer
- B. Diabetes
- C. Protein Energy Malnutrition
- D. Acquired Immuno Deficiency Syndrome ✓

Q4 General Science

Which of the following is a characteristic of gases?

- A. No fixed shape but fixed volume
- B. No fixed shape and no fixed volume ✓
- C. Fixed shape and volume
- D. Compressible but not fluid

Q5 General Science

A body of mass 'm' kg is kept at a height of 'h' m from the surface of the Earth. What will be the potential energy possessed by this body?

- A. mgh ✓
- B. mh/g
- C. m2gh
- D. hg/m

Q6 General Science

The weight of a body on the moon is less than on Earth because:

- A. Gravitational acceleration on the moon is smaller ✓
- B. Mass of the body decreases on the moon
- C. Mass of the moon is equal to Earth's mass
- D. The moon has no atmosphere

Q7 General Science

How is intercropping beneficial over single crop farming?

- A. Utilises nutrients efficiently and prevents spread of diseases ✓
- B. Reduces labour cost
- C. Increases irrigation needs
- D. Requires less land

Q8 General Science

When a gun is fired, the bullet moves forward because:

- A. gravity pushes it forward
- B. the recoil of the gun acts backward as reaction ✓
- C. the barrel exerts no force
- D. air resistance acts forward

Q9 General Science

A car starts from rest and accelerates uniformly at 2 m/s^2 for 5 seconds. What is the final velocity of the car?

- A. 20 m/s
- B. 5 m/s
- C. 15 m/s
- D. 10 m/s ✓

Q10 General Science

Generally which of the following trophic levels have the least number of organisms?

- A. Secondary consumers
- B. Producers
- C. Primary consumers
- D. Tertiary consumers ✓



Q11 General Science

Which of the following will show diffusion fastest?

- A. Solid in liquid
- B. Liquid in gas
- C. Solid in solid
- D. Gas in gas

**Q12 General Science**

Which of the following statements is true about HIV transmission?

- A. HIV can be transmitted through mosquito bites.
- B. HIV can be transmitted through aerosols.
- C. HIV can be transmitted through casual contact.
- D. HIV can be transmitted through sexual acts.

**Q13 General Science**

Which of the following plants reproduces asexually by budding along the margins of a leaf?

- A. Hydra
- B. Bryophyllum
- C. Mango
- D. Spirogyra

**Q14 General Science**

Which of the following has the highest acidity?

- A. Water
- B. Milk
- C. Lemon juice
- D. Vinegar

**Q15 General Science**

The distance between the pole and the centre of curvature of a convex mirror is + 40 cm. What will be the distance between the pole and the focus of this mirror?

- A. -40 cm
- B. -20 cm
- C. + 40 cm
- D. + 20 cm

**Q16 General Science**

Which of the following observations best supports that liquids have a definite volume but no fixed shape?

- A. Air expands to fill the entire container
- B. A solid iron block retains its shape in any container
- C. Water takes the shape of its container but retains its volume
- D. A sponge changes its shape when squeezed

**Q17 General Science**

Magnification produced by a lens is related to object distance (u) and image distance (v) by the formula:

- A. $m = v - u$
- B. $m = u + v$
- C. $m = u / v$
- D. $m = v / u$

**Q18 General Science**

Which of the following methods involves coating steel and iron with a layer of zinc to prevent rusting?

- A. Passivation
- B. Galvanisation
- C. Electroplating
- D. Cathodic protection

**Q19 General Science**

Which among the following organic compounds is saturated?

- A. 2-Bromopropene
- B. Propene
- C. Bromopropane
- D. Propyne

**Q20 General Science**

Mitochondria are special because they have their own DNA and ribosomes. What can they do on this basis?

- A. Digest materials like lysosomes do
- B. Make some of their own proteins
- C. Make food using sunlight like plants do
- D. Move around the cell on their own



Q21 General Science

_____ is precipitated, when carbon dioxide is passed through lime water.

- A. CaSO_4
- B. Ca(OH)_2
- C. CaCO_3 ✓
- D. $\text{Ca(HCO}_3)_2$

Q22 General Science

Which of the following has straight-chain hydrocarbons?

- A. 3-Methylpentane
- B. 2-Methylpropane
- C. Isobutane
- D. Butane ✓

Q23 General Science

The relation between electric energy, power and time is:

- A. Energy = Power / Time
- B. Energy = Power + Time
- C. Energy = Time – Power
- D. Energy = Power $\times$ Time ✓

Q24 General Science

Why can tiny molecules like oxygen easily pass through the cell membrane, but not the big ones like starch or proteins?

- A. The cell membrane is completely solid.
- B. Small molecules have special energy to push through.
- C. Big molecules have to break down for entry.
- D. The cell membrane is permeable to selective substances. ✓

Q25 General Science

How much work (W) is done in moving a charge (Q) of 5 C across two points that have a potential difference of 15 V?

- A. 15 J
- B. 3 J
- C. $\frac{1}{3}$ J
- D. 75 J ✓



General Science

25 Questions • Answer Key

Q1 General Science

What is the defining characteristic of an unsaturated carbon compound?

- A. All carbon atoms are linked by only single bonds.
- B. It forms only cyclic structures.
- C. It always contains a functional group with oxygen.
- D. It contains at least one double or triple bond between carbon atoms. ✓

Q2 General Science

A housing society has started segregating waste into two bins – green for kitchen waste and blue for plastic, metal and glass. What is the main benefit of this practice?

- A. It makes waste collection faster.
- B. It helps separate non-biodegradable from biodegradable waste. ✓
- C. It increases the quantity of waste produced.
- D. It reduces the smell of garbage.

Q3 General Science

The process of swelling or shrinking in plant cells, leading to changes in shape and movement, is directly caused by which factor?

- A. The stiffening of their cell walls.
- B. The alteration of their internal water content. ✓
- C. The formation of new protein structures.
- D. The rapid breakdown of cellulose.

Q4 General Science

Which of the following statements is correct?

Statement 1: The magnetic field lines produced around a straight current-carrying conductor form concentric circles centred along the wire.
Statement 2: The direction of these magnetic field lines can be determined using the right-hand thumb rule.

- A. Both statements 1 and 2 are incorrect.
- B. Statement 1 is correct, but 2 is incorrect.
- C. Statement 1 is incorrect, but 2 is correct.
- D. Both statements 1 and 2 are correct. ✓

Q5 General Science

A student cuts the style of a flower before pollination. What will be the most likely outcome?

- A. Pollination will be faster.
- B. The ovule will turn into a seed.
- C. Fertilisation will not occur. ✓
- D. The pollen tube will grow more quickly.

Q6 General Science

Metals found at the bottom of the activity series (e.g., gold, silver, platinum) are typically found in nature in which state?

- A. As sulphides that require calcination
- B. As highly reactive oxides
- C. As carbonates that require roasting
- D. In their free state ✓

Q7 General Science

Which of the following increases when the amplitude of a wave increases?

- A. Wavelength
- B. Speed
- C. Frequency
- D. Energy of the wave ✓

Q8 General Science

How many daughter cells are formed during binary fission?

- A. Zero
- B. One
- C. Four
- D. Two ✓



Q9 General Science

To demonstrate the relationship between inertia and mass, a student compares the difficulty of kicking a football versus kicking a stone of equal size. What fundamental principle justifies the greater difficulty and potential injury associated with kicking the stone?

- A.** The stone possesses greater mass, which results in greater inertia, meaning it offers larger resistance to changing its state of rest. ✓
- B. The stone has lower surface friction, causing all force to be transmitted.
- C. The stone is subject to the First Law of Motion, while the football is governed by the Second Law.
- D. The force applied to the stone is insufficient to overcome the centripetal force holding its atoms together.

Q10 General Science

Which of the following statements is true about gravitational force of the Earth?

- A. It is a non-central force.
- B. It is independent of distance from Earth's centre.
- C.** It depends on the mass of the object. ✓
- D. It acts away from the centre of Earth.

Q11 General Science

Newton's First Law of Motion is also called the law of:

- A. force
- B. acceleration
- C.** inertia ✓
- D. action and reaction

Q12 General Science

The resistance of a metallic conductor increases with:

- A. Decrease in temperature
- B.** Increase in temperature ✓
- C. Increase in cross-sectional area
- D. Decrease in length

Q13 General Science

What is the approximate pH of a salt solution formed from a strong acid and a strong base?

- A.** Equal to 7 ✓
- B. Greater than 7
- C. Less than 7
- D. Can be less than or greater than 7 depending on temperature

Q14 General Science

Which of the following examples best illustrates the real-life role of lysosomes in action?

- A. A nerve cell passing signals to help you feel pain
- B.** A white blood cell swallowing and breaking down harmful bacteria ✓
- C. A red blood cell delivering oxygen to muscles
- D. A green leaf making food by photosynthesis

Q15 General Science

What is the main function of the nucleus in an eukaryotic cell?

- A. Digesting waste
- B.** Directing life processes of the cell ✓
- C. Acting as a storage unit for food
- D. Producing energy

Q16 General Science

Rutherford's α -particle scattering experiment led to the discovery of which of the following?

- A. Electrons
- B. Protons
- C. Neutrons
- D.** Nucleus ✓

Q17 General Science

When white light falls on a glass prism, out of all its constituent colours, violet colour undergoes maximum bending. Why?

- A.** Violet has minimum wavelength and hence maximum refractive index ✓
- B. Violet has maximum wavelength and hence minimum refractive index
- C. Violet has minimum wavelength and hence minimum refractive index
- D. Violet has maximum wavelength and hence maximum refractive index



Q18 General Science

Which of the following organs releases growth hormone releasing factor, which stimulates the pituitary gland to release growth hormone?

- A. Thymus
- B. Pancreas
- C. Adrenal glands
- D. Hypothalamus

**Q19 General Science**

Which of the following is an example of potential energy?

- A. A rolling ball
- B. A book kept on a table
- C. A flowing river
- D. A moving train

**Q20 General Science**

The state of a substance whether it will be solid, liquid or gas is determined by:

- a. Temperature
- b. Pressure
- c. Volume

- A. b and c only
- B. a and b only
- C. a, b and c
- D. a and c only

**Q21 General Science**

Which of the following is NOT true regarding the image formed by a concave lens?

- (i) The image formed by a concave lens cannot be obtained on a screen.
- (ii) The image formed by a concave lens can be obtained on a screen.
- (iii) The image formed is always smaller in size in comparison to the size of the object.
- (iv) The image formed is always bigger in size in comparison to the size of the object.

- A. Both (i) and (iii)
- B. Both (i) and (iv)
- C. Both (ii) and (iii)
- D. Both (ii) and (iv)

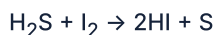
**Q22 General Science**

What type of reaction occurs when barium chloride reacts with sodium sulfate?

- A. Double displacement
- B. Oxidation
- C. Decomposition
- D. Combination

**Q23 General Science**

Observe the following chemical reaction:



Which of the following statements correctly describes this redox reaction?

Statements:

- I: Hydrogen sulphide undergoes oxidation to form sulphur.
- II: Iodine is reduced, producing hydrogen iodide.

- A. Both Statement I and II are correct
- B. Only Statement I is correct
- C. Both Statement I and II are incorrect
- D. Only Statement II is correct

**Q24 General Science**

What is the sequence of stages involved in the budding process of hydra?

- A. Bud initiation → Bud detachment → Bud maturation → New individual
- B. Bud initiation → Bud maturation → Bud detachment → New individual
- C. Bud maturation → Bud initiation → Bud detachment → New individual
- D. New individual → Bud maturation → Bud detachment → Bud initiation

**Q25 General Science**

Which of the following activities demonstrates the presence of spaces between particles of matter?

- A. Freezing a liquid
- B. Dissolving sugar in water
- C. Compressing a gas
- D. Heating a solid



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following equations of motion is independent of the final velocity of a particle?

- A. $v = ut + a$
- B. $v^2 - u^2 = 2as$
- C. $v = u + at$
- D. $s = ut + \frac{1}{2}at^2$ ✓

Q2 General Science

Which of the following correctly explains why gases can be compressed easily compared to solids and liquids?

- A. Gases have high mass and density
- B. Gases do not occupy space
- C. Gases have low kinetic energy
- D. Gases have loosely packed particles with large intermolecular spaces ✓

Q3 General Science

A poultry farmer wants birds that consume less feed, tolerate high heat, and produce quality chicks. Which strategy should he follow?

- A. Use only indigenous birds
- B. Cross-breed exotic and local poultry ✓
- C. Shift to fish farming
- D. Feed birds twice a day

Q4 General Science

Which of the following sexually transmitted diseases is caused by a bacterium?

- A. Warts
- B. Typhoid
- C. HIV-AIDS
- D. Gonorrhoea ✓

Q5 General Science

Consider a ray of light travelling obliquely from air into a glass slab. Which of the following statement(s) is/are true?

- (i) The angle of incidence is smaller than the angle of refraction.
- (ii) The angle of incidence is greater than the angle of emergence.
- (iii) The speed of light decreases as the light ray enters from air to glass.
- (iv) The incident ray and the emergent ray are parallel to each other.

- A. Both (ii) and (iii)
- B. Both (iii) and (iv) ✓
- C. Both (i) and (ii)
- D. Both (i) and (iv)

Q6 General Science

In the context of carbon compounds, what characterises a 'branched chain' structure?

- A. Carbon atoms are bonded to four different atoms.
- B. Carbon atoms are arranged in a continuous, straight line.
- C. Carbon atoms form a closed ring structure.
- D. Carbon atoms are attached to the main carbon chain, forming side groups. ✓

Q7 General Science

What happens when a pendulum bob swings from its mean position to extreme position?

- A. Total energy decreases
- B. Potential energy increases, kinetic energy decreases ✓
- C. Both kinetic and potential energies increase
- D. Potential energy decreases, kinetic energy increases



Q8 General Science

Select the correct option regarding the following two statements labelled Assertion and Reason.

Assertion: Sound waves are non-mechanical waves.

Reason: Sound waves require a material medium for their propagation.

- A. Assertion is true but reason is false.
- B. Assertion is false but reason is true. ✓
- C. Both assertion and reason are true and reason is the correct explanation of assertion.
- D. Both assertion and reason are false.

Q9 General Science

In reproductive health, the aim of contraception is _____.

- A. to make twin babies
- B. to have more babies
- C. to prevent unplanned pregnancies ✓
- D. to make babies healthy

Q10 General Science

Which of the following metals is purified by distillation?

- A. Silver
- B. Copper
- C. Zinc ✓
- D. Iron

Q11 General Science

Which of the following correctly identifies an element that DOES NOT exist as a molecule in nature?

- A. Helium ✓
- B. Chlorine
- C. Hydrogen
- D. Iodine

Q12 General Science

The plant cell wall is primarily composed of:

- A. cellulose ✓
- B. chitin
- C. suberin
- D. N-Acetyl glucosamine

Q13 General Science

Which of the following statements is/are correct?

- a. Olfactory indicators are used to check the acidic or basic nature of a compound.
- b. Clove oil is an olfactory indicator.
- c. Clove oil is used to check the purity of any compound.

- A. a only
- B. a and b only ✓
- C. a, b and c
- D. a and c only

Q14 General Science

A bullet of small mass and high velocity can penetrate a target deeper than a heavy stone thrown at the same speed because:

- A. it is sharper
- B. it has less inertia ✓
- C. it has greater mass
- D. it is smaller in size

Q15 General Science

What is the product formed when ethene reacts with bromine?

- A. Ethane
- B. Bromoethane
- C. 1,2-dibromoethane ✓
- D. Ethanol

Q16 General Science

Two resistors of $15\ \Omega$ and $5\ \Omega$ are connected in series with a $12\ \text{V}$ battery. How much current will flow in the circuit?

- A. $0.5\ \text{A}$
- B. $0.65\ \text{A}$
- C. $0.6\ \text{A}$ ✓
- D. $0.45\ \text{A}$

Q17 General Science

Ethanol on heating at $443\ \text{K}$ in excess concentrated sulphuric acid gives ethene. The chemical change taking place is:

- A. reduction
- B. dehydration ✓
- C. oxidation
- D. halogenation



Q18 General Science

Which of the following is a process in which absorbed substances from alimentary canal is transported to different organs where they are used to build complex substances?

A. Transpiration

B. Assimilation



C. Photosynthesis

D. Digestion

Q19 General Science

Which of the following statements is true according to Thomson's Model of Atom?

A. Electrons are spread randomly in a positively charged sphere.



B. Electrons are attached to neutrons.

C. Electrons are concentrated in the nucleus.

D. Electrons are fixed in the orbits.

Q20 General Science

What is the effective diameter of the circular outline of a spherical lens called?

A. Aperture



B. Optical centre

C. Focal length

D. Radius of curvature

Q21 General Science

Which of the following statements best explains why hormonal contraceptive pills can have side effects?

A. They destroy the egg inside the ovary.

B. They prevent the sperm from reaching the egg mechanically.

C. They interfere with the body's immune system.

D. They disrupt the natural hormonal balance, affecting other physiological functions.

**Q22 General Science**

Why does growth in plants occur only in specific regions?

A. Gravity prevents growth in certain regions.

B. Only some parts of the plant receive sunlight.

C. Water reaches only the upper parts of the plant.

D. Meristematic tissue is located only in specific regions.

**Q23 General Science**

Which of the following is/are NOT consequence(s) of large dams?

A. Economic problems

B. Deforestation

C. Afforestation



D. Social problems

Q24 General Science

Archimedes' principle states that when a body is immersed in a fluid, it experiences _____.

A. An upward force equal to the weight of the body

B. An upward force equal to the weight of fluid displaced by the body



C. No change in its weight

D. A downward force equal to the weight of fluid displaced by the body

Q25 General Science

Which of the following is a characteristic property of a material?

A. Voltage

B. Current

C. Resistivity



D. Resistance



General Science

25 Questions • Answer Key

Q1 General Science

Colloidal particles are separated by:

- A. recrystallisation
- B. centrifugation ✓
- C. filtration
- D. boiling

Q2 General Science

What is the relationship between the incident ray and the emergent ray after light passes through the two parallel opposite faces of a rectangular glass slab?

- A. The emergent ray is parallel to the direction of the incident ray, but shifted sideward slightly ✓
- B. The emergent ray is perpendicular to the incident ray
- C. The emergent ray is reflected back along the path of the incident ray
- D. The emergent ray converges to a point on the principal axis

Q3 General Science

Which of the following statements are NOT true regarding the principal axis of a spherical mirror?

(i) It is an imaginary straight line passing through the pole and the centre of curvature of a spherical mirror.
(ii) Principal axis is normal to the mirror at its pole.
(iii) A ray parallel to the principal axis after reflection from the mirror passes through the centre of curvature of the mirror.
(iv) The focus of a spherical mirror does not lie on its principal axis.

- A. Both (i) and (ii)
- B. Both (i) and (iv)
- C. Both (ii) and (iii)
- D. Both (iii) and (iv) ✓

Q4 General Science

How is molecular mass calculated?

- A. Adding all atomic masses of the atoms in molecule ✓
- B. Adding all atomic volumes of the atoms present
- C. By squaring atomic numbers of all elements
- D. Multiplying atomic radii of constituent elements

Q5 General Science

Which of the following metallic oxides can be reduced to metals by heating alone?

- A. Manganese oxide
- B. Iron (III) oxide
- C. Mercuric oxide ✓
- D. Zinc oxide

Q6 General Science

Which of the following meristems is responsible for the lengthwise growth at the ends of shoots and roots?

- A. Permanent meristem
- B. Intercalary meristem
- C. Apical meristem ✓
- D. Lateral meristem

Q7 General Science

Which of the following metals reacts most vigorously with water?

- A. Iron
- B. Lead
- C. Zinc
- D. Sodium ✓

Q8 General Science

A fluid filled in a container exerts pressure _____ at the same height.

- A. only downward
- B. only upward
- C. equally in all directions of the container ✓
- D. only on the sides

Q9 General Science

What is the purpose of a plug key in an electrical circuit?

- A. It measures the current flowing through a circuit.
- B. It provides potential difference in a circuit.
- C. It helps in connecting and disconnecting a circuit. ✓
- D. It measures the potential difference in a circuit.



Q10 General Science

Which of the following is NOT a contraceptive method?

- A. Preventing sperm from reaching the egg by using condoms
- B. Aborting the foetus** ✓
- C. Inserting Copper-T into the uterus
- D. Altering hormonal balance to prevent release of eggs from the ovary

Q11 General Science

A person pushes a massive, stationary object (like a parked truck) with force F . The object pushes back with force $-F$. Why does the object NOT accelerate if the reaction force is equal and opposite, as suggested by the Third Law?

- A. The magnitude of the force F is insufficient to overcome the object's inherent potential energy.
- B. The forces act instantaneously, preventing momentum change.
- C. The net force on the object is zero because the action and reaction forces cancel out.
- D. The action and reaction forces act on different objects, but the static friction on the stationary object balances the applied push force F .** ✓

Q12 General Science

Which of the following correctly describes how potential difference between two points is calculated?

- A. Potential difference = Charge $\times$ Work done
- B. Potential difference = Charge $\div$ Work done
- C. Potential difference = Work done $\div$ Charge** ✓
- D. Potential difference = Work done $\times$ Potential energy

Q13 General Science

Which of the following methods is commonly used to prevent the corrosion of iron?

- A. Heating the metal repeatedly
- B. Cooling the metal with water regularly
- C. Dissolving the metal in acid
- D. Coating the metal with paint or oil** ✓

Q14 General Science

When solid lead(II) nitrate is heated, a yellow residue (PbO) is left behind and two gases are evolved — one is reddish-brown and the other supports combustion. Which gases are evolved?

- A. Nitrogen gas and carbon dioxide
- B. Nitrogen dioxide and oxygen** ✓
- C. Nitrogen dioxide and hydrogen
- D. Nitric oxide and oxygen

Q15 General Science

At higher levels of the atmosphere, which of the following shields the surface of the earth from ultraviolet radiation?

- A. Hydrogen
- B. Carbon
- C. Ozone** ✓
- D. Nitrogen

Q16 General Science

Match the common name of the bee with its scientific name.

Column I (Common Name).	Column II (Scientific Name)
1. Indian bee	A. <i>Apis mellifera</i>
2. Rock bee	B. <i>Apis cerana indica</i>
3. Little bee	C. <i>Apis dorsata</i>
4. Italian bee	D. <i>Apis florae</i>

- A. 1-B, 2-C, 3-D, 4-A** ✓
- B. 1-C, 2-D, 3-B, 4-A
- C. 1-A, 2-B, 3-C, 4-D
- D. 1-D, 2-A, 3-C, 4-B

Q17 General Science

As Newton is to weight, _____ is to pressure.

- A. Kelvin
- B. Kilogram per cubic metre
- C. Kilogram
- D. Pascal** ✓



Q18 General Science

Which one of the following is an advantage of vegetative propagation in flowering plants?

- A. They can flower and fruit later than those produced by seeds.
- B. They can show completely new characters than those produced by seeds.
- C. They are completely different from their parent plants.
- D. They can flower and fruit earlier than those produced by seeds. ✓

Q19 General Science

The shortest distance between the initial and final positions of an object is called _____.

- A. acceleration
- B. distance
- C. displacement ✓
- D. speed

Q20 General Science

How does the sound of a patient's heartbeat travel from the chest piece to the doctor's ear through a stethoscope?

- A. By multiple reflection of sound ✓
- B. By conversion to electrical signals
- C. By direct transmission without reflection
- D. By refraction of sound waves

Q21 General Science

Work done by a force is said to be positive when:

- A. the angle between force and displacement is 90°
- B. the displacement of the body is zero
- C. the force has a component in the direction of displacement ✓
- D. the force opposes the motion of the body

Q22 General Science

Which organelle is called the 'suicidal bag' of the cell?

- A. Golgi body
- B. Lysosome ✓
- C. Ribosome
- D. Mitochondria

Q23 General Science

Which of the following statements about cell size is correct?

- A. Cell size is related to its function, not the size of the organism. ✓
- B. Cell size depends on the number of nuclei.
- C. Cell size is always large in multicellular organisms.
- D. All cells are of the same size in all organisms.

Q24 General Science

In Mendel's experiment, what did he observe in the F1 generation when he crossed a tall (TT) and a short pea (tt) plant?

- A. All were medium height
- B. Half were tall, half was short
- C. All were short
- D. All were tall ✓

Q25 General Science

Which process is used to prepare sodium hydroxide from brine?

- A. Solvay process
- B. Electrolysis of brine ✓
- C. Thermal decomposition of NaCl
- D. Haber process



General Science

25 Questions • Answer Key

Q1 General Science

An object is thrown straight up and reaches a maximum height of 20 m. If we take $g = 10 \text{ m/sec}^2$, what was the initial speed of the object when it was thrown?

- A. 40 m/sec
- B. 10 m/sec
- C. 30 m/sec
- D. 20 m/sec



Q2 General Science

What is the main function of the vas deferens in the male reproductive system?

- A. Transporting sperm from the epididymis to the urethra
- B. Regulating body temperature
- C. Sperm production
- D. Seminal fluid secretion



Q3 General Science

Which plastids contain pigments that give plants their yellow, orange or red colours?

- A. Leucoplasts
- B. Chloroplasts
- C. Chromoplasts
- D. Amyloplasts



Q4 General Science

Which of the following correctly defines the amplitude of a wave?

- A. The number of vibrations per second
- B. The speed with which the wave travels
- C. The distance between two consecutive crests
- D. The maximum displacement of the particle from its mean position



Q5 General Science

An atom has 11 protons, 11 electrons and 12 neutrons. What is the mass number of that atom?

- A. 24
- B. 12
- C. 11
- D. 23



Q6 General Science

An object is placed 30 cm in front of a concave mirror of focal length 15 cm. What will be the image distance v ?

- A. -30 cm
- B. +30 cm
- C. -15 cm
- D. +15 cm



Q7 General Science

A machine does 'W' joule work in time 't' seconds. The power 'P' watt of the machine is given correctly by which of the following relations?

- A. $P = W \times t$
- B. $P = W2t$
- C. $P = W/t$
- D. $P = W2/t$



Q8 General Science

Which of the following observations confirms that a solution is acidic?

- A. Methyl orange: yellow, Phenolphthalein: pink, Litmus: blue
- B. Methyl orange: red, Phenolphthalein: pink, Litmus: red
- C. Methyl orange: yellow, Phenolphthalein: colourless, Litmus: blue
- D. Methyl orange: red, Phenolphthalein: colourless, Litmus: red



Q9 General Science

Which gas is mainly responsible for the greenhouse effect and is released when fossil fuels are burned?

A. Carbon dioxide



B. Oxygen

C. Nitrogen

D. Hydrogen

Q10 General Science

If tall (T) is dominant over short (t), and round seeds (R) are dominant over wrinkled (r), identify the genotype of a plant that shows short height and round seeds.

A. ttRR



B. TtRr

C. TtRR

D. Ttrr

Q11 General Science

What is the role of lysosomes in a cell?

A. To transport products

B. To digest foreign material



C. To produce ATP

D. To store proteins

Q12 General Science

Which of the following is NOT considered an organic compound?

A. Sodium carbonate (Na_2CO_3)



B. Ethanol ($\text{C}_2\text{H}_5\text{OH}$)

C. Methane (CH_4)

D. Acetic acid (CH_3COOH)

Q13 General Science

A net horizontal force of 20 N acts on a 4 kg block initially at rest for 5 s. What is the block's final speed?

A. 25 m/s



B. 30 m/s

C. 20 m/s

D. 50 m/s

Q14 General Science

Which of the following ensures genetic variation in sexually reproducing animals?

A. Gametes are formed by mitosis

B. Only one parent is involved

C. Offspring receive genes from both parents



D. Fertilisation occurs inside the body

Q15 General Science

Based on function, which of the following combinations represent all types of animal tissues found in humans?

A. Epithelial tissue, Connective tissue, Muscular tissue and Nervous tissue



B. Epithelial tissue, Connective tissue and Reproductive tissue

C. Epithelial tissue, Connective tissue and Skeletal tissue

D. Epithelial tissue, Muscular tissue and Glandular tissue

Q16 General Science

Which property of isobars is always different?

A. Atomic number



B. Total number of electrons

C. Total number of nucleons

D. Mass number

Q17 General Science

According to Bohr's Model of atom, electrons revolve around the nucleus in _____.

A. straight lines

B. elliptical path

C. random path

D. discrete orbits

**Q18 General Science**

Two wires of the same material have equal lengths but their cross-sectional areas are in the ratio 1 : 4. The ratio of their resistances will be:

A. 4 : 1



B. 1 : 4

C. 1 : 1

D. 1 : 2



Q19 General Science

Which of the following is a key goal of conserving forests and biodiversity?

- A. To promote tourism
- B. To expand national parks
- C. To preserve inherited biodiversity ✓
- D. To allow more industrial use of forests

Q20 General Science

Which of the following statements is INCORRECT about uniform motion?

- A. The velocity remains unchanged
- B. The speed varies continuously with time ✓
- C. The body covers equal distances in equal intervals of time
- D. The acceleration is zero

Q21 General Science

During the process of electrolytic refining of metals, on passing the current through the electrolyte, the impure metal from the _____ dissolves into the electrolyte.

- A. both anode and cathode
- B. cathode
- C. salt bridge
- D. anode ✓

Q22 General Science

Which of the following statements is true about magnetic field lines?

- A. Field lines intersect at poles.
- B. Field lines inside a magnet move from north to south.
- C. Magnetic field is weaker where lines are close.
- D. Field lines outside a magnet move from north to south. ✓

Q23 General Science

What is the formula of formic acid?

- A. $C_2H_4O_2$
- B. $HCOOH$ ✓
- C. C_2H_6O
- D. C_2H_5OH

Q24 General Science

Which of the following statements is NOT correct?

- A. In a prism, the emergent ray bends towards the base of the prism when the incident ray is coming from the base side.
- B. In a prism, dispersion can occur if white light is used.
- C. In a prism, the incident ray and emergent ray are always parallel. ✓
- D. The angle of deviation is the angle between the incident ray and emergent ray.

Q25 General Science

Which of the following carbon compounds burns with a blue, non-sooty flame under normal conditions?

- A. Ethanol ✓
- B. Diesel
- C. Kerosene
- D. Charcoal



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is in accordance with Law of constant proportions?

- a. In water, the ratio of the mass of hydrogen to the mass of oxygen is always 1 : 8.
- b. The ration of carbon and oxygen in carbon dioxide is always 3 : 8 by mass.
- c. In ammonia, nitrogen and hydrogen are always present in the ratio 14 : 1 by mass.

- A. a, b and c
- B. Only a
- C. Only b and c
- D. Only a and b



Q2 General Science

An electric heater of resistance $20\ \Omega$ operates for 10 minutes when connected to a 220 V supply. The heat produced is:

- A. $1.45 \times 10^6\ \text{J}$
- B. $1.45 \times 10^5\ \text{J}$
- C. $2.9 \times 10^5\ \text{J}$
- D. $2.9 \times 10^4\ \text{J}$



Q3 General Science

What is the exact location of the kidneys in human beings?

- A. In the chest region, just below the heart
- B. In the chest region, on either side of the lungs
- C. In the abdomen, on either side of the back bone
- D. In the abdomen, on either side of the intestine



Q4 General Science

Which of the following statements is correct for the mass and weight of an object?

- A. Mass is variable and Weight is constant
- B. Mass is constant and Weight is variable
- C. Both Mass and Weight are constant
- D. Both Mass and Weight are variable



Q5 General Science

Fleming's Left-Hand Rule is used to determine the direction of motion in an electric motor. Which finger represents the direction of the force or motion?

- A. Index finger
- B. Middle finger
- C. Thumb
- D. Little finger



Q6 General Science

The removal of which of the following weeds from agricultural land will be beneficial for farmers?

- A. Wheat
- B. Parthenium
- C. Soybean
- D. Sunflower



Q7 General Science

Which of the following is a part of the human male reproductive system?

- A. Uterus
- B. Prostate gland
- C. Vagina
- D. Fallopian tube



Q8 General Science

Which of the following is an example of growing two or more crops simultaneously on the same land field in a definite pattern?

- A. Hydroponics
- B. Monocropping
- C. Inter-cropping
- D. Aeroponics



Q9 General Science

A solution is said to be stable when:

- A. the solute particles float on the surface of solution when left undisturbed
- B. the solute particles do not settle down when left undisturbed ✓
- C. the solute particles settle down when left undisturbed
- D. the solute particle forms a separate layer with solvent particles

Q10 General Science

A swimmer pushes water backwards. The reaction force that propels the swimmer forward is:

- A. Water pushes the swimmer backward
- B. Gravity pushes the swimmer forward
- C. Air pushes the swimmer
- D. Water pushes the swimmer forward ✓

Q11 General Science

A person is standing in a bus that suddenly stops. The person tends to fall forward. Which of the following laws of motion is directly responsible for this phenomenon?

- A. Newton's First Law of Motion. ✓
- B. Newton's Third Law of Motion.
- C. The Law of Conservation of Momentum.
- D. Newton's Second Law of Motion.

Q12 General Science

Which of the following is NOT a part of the structural organisation of a cell?

- A. Heart ✓
- B. Cell wall
- C. Cytoplasm
- D. Mitochondria

Q13 General Science

When a hydrocarbon is burnt in excess of air, the final product is always:

- A. carbon monoxide and hydrogen
- B. carbon dioxide and hydrogen
- C. carbon monoxide and water
- D. carbon dioxide and water ✓

Q14 General Science

Why is variation primarily important in a population of organisms?

- A. It always gives instant result within the same generation.
- B. It increases the chance of survival under changing environmental conditions ✓
- C. It ensures that all individuals are identical
- D. It helps organisms reproduce faster

Q15 General Science

Consider the unbalanced reaction:



Which of the following is the correct set of coefficients to balance this equation?

- A. 1, 5, 3, 4
- B. 2, 5, 4, 6
- C. 1, 3, 2, 3
- D. 2, 7, 4, 6 ✓

Q16 General Science

Which of the following statements defines Formula Unit?

- A. Mass of one molecule
- B. Sum of atomic masses of all atoms in the formula unit of an ionic compound ✓
- C. Mass of one mole of a compound
- D. Mass of an atom

Q17 General Science

Nucleons are subatomic particles found inside the atom. They consist of:

- A. only neutrons
- B. protons and neutrons ✓
- C. only protons
- D. electrons

Q18 General Science

Roots of which of the following plants can give rise to new plants?

- A. Maize
- B. Potato
- C. Gram
- D. Sweet potato ✓



Q19 General Science

Neutralisation reaction is best described as _____.

- A. Acid + Metal → Salt + Hydrogen
- B. Acid + Salt → Water
- C. Base + Oxide → Salt + Water
- D. Acid + Base → Salt + Water ✓

Q20 General Science

Due to presence of which particle, does Rough Endoplasmic Reticulum (RER) look rough under a microscope?

- A. Centrosome
- B. Lysosome
- C. Ribosome ✓
- D. Peroxisome

Q21 General Science

When the velocity of a body is increased to twice its original value, its kinetic energy becomes _____.

- A. twice the original value
- B. the same as before
- C. four times the original value ✓
- D. half the original value

Q22 General Science

What is used as the anode during electrolytic refining?

- A. An inert electrode
- B. A rod of graphite
- C. A strip of impure metal to be refined ✓
- D. A strip of pure metal to be refined

Q23 General Science

Which of the following is responsible for the dispersion of white light through a glass prism?

- A. Different colours of light travel at the same speed in glass.
- B. The prism absorbs some colours.
- C. White light contains only one colour.
- D. Different colours of light travel at different speeds in glass. ✓

Q24 General Science

Compared to a soft sound, a louder sound wave of the same frequency is characterised by _____.

- A. Higher pitch
- B. Larger amplitude ✓
- C. Smaller speed
- D. Smaller wavelength

Q25 General Science

The band of seven colours obtained on a screen due to dispersion is called _____.

- A. Spectrum ✓
- B. Shadow
- C. Image
- D. Reflection pattern



General Science

25 Questions • Answer Key

Q1 General Science

For the life processes, the transfer of a source of energy from outside the body of the organism is called _____.

- A. excretion
- B. digestion
- C. respiration
- D. nutrition



Q2 General Science

A passenger standing in a moving bus suddenly falls forward when the bus stops abruptly. This illustrates which of the following laws?

- A. Newton's second law
- B. Newton's third law
- C. Newton's first law
- D. Law of gravitation



Q3 General Science

A triangular glass prism has how many rectangular lateral surfaces?

- A. Two
- B. Four
- C. One
- D. Three



Q4 General Science

Which of the following is a general physical property of nonmetals?

- A. High electrical conductivity
- B. High melting and boiling points
- C. Dull appearance (non-lustrous)
- D. Malleability and ductility



Q5 General Science

In circuit diagrams, a zigzag line is used to represent which of the following?

- A. A switch
- B. A battery
- C. A resistor
- D. A fuse



Q6 General Science

Which of the following is/are controlled by the use of insecticides in crop protection management?

- A. Fungus
- B. Weeds
- C. Insects
- D. Virus



Q7 General Science

Liquids have:

- A. a definite shape and no fixed volume
- B. no definite shape and no fixed volume
- C. no definite shape but have a fixed volume
- D. a definite shape and a fixed volume



Q8 General Science

A runner completes one round of a circular track of radius 175 m in 35 seconds. The average velocity after one round is _____.

- A. 5 m/s
- B. 10 m/s
- C. 0 m/s
- D. 20 m/s



Q9 General Science

What is corrosion?

- A. Neutralisation reaction
- B. Physical change
- C. Endothermic reaction
- D. Chemical change



Q10 General Science

Neutralisation reaction involves the combination of _____ from the acid and _____ from the base to form water molecules.

- A. H⁻ ions and OH⁺ ions, respectively
- B. H⁺ ions and OH⁻ ions, respectively
- C. OH⁺ ions and OH⁻ ions, respectively
- D. OH⁺ ions and H⁻ ions, respectively



Q11 General Science

The Golgi apparatus is associated with which of the following organelles?

A. Endoplasmic reticulum ✓

B. Nucleus

C. Mitochondria

D. Plastids

Q12 General Science

Neurons have many short, branched parts or processes attached to cell body called _____.

A. nerve endings

B. dendrites ✓

C. axons

D. nuclei

Q13 General Science

What is the primary cause of reverberation in a hall or room?

A. Absorption of sound by soft materials

B. Variation in air temperature

C. Multiple reflections of sound from hard surfaces ✓

D. Bending of sound waves

Q14 General Science

Where should an object be placed in front of a convex lens to get a real image of the size of the object?

A. At infinity

B. Between infinity and the principal focus of the lens

C. At the principal focus of the lens

D. At twice the focal length ✓

Q15 General Science

Electrons revolve around the nucleus in fixed paths called:

A. Nucleons

B. Quarks

C. Elliptical paths

D. Shells or orbitals ✓

Q16 General Science

An object moves along a straight path from point O to point A (100 m away), then immediately reverses and stops at point B, which is 30 m away from A back towards O. What is the total distance covered and the magnitude of the displacement, respectively?

A. 70 m, 70 m

B. 130 m, 70 m ✓

C. 100 m, 70 m

D. 130 m, 30 m

Q17 General Science

From the given compounds, which is used as a fuel additive?

A. Ethane

B. Ethanoic acid

C. Ethanal

D. Ethanol ✓

Q18 General Science

The total resistance of 10 resistors of equal resistance R arranged in series arrangement is _____.

A. $10/R$

B. $R/10$

C. $R10$

D. $10R$ ✓

Q19 General Science

Which of the following nutrients is required in large quantities by plants?

A. Iron

B. Copper

C. Phosphorus ✓

D. Zinc

Q20 General Science

Which of the following life processes is NOT essential to maintain the life of an individual organism?

A. Excretion

B. Nutrition

C. Respiration

D. Reproduction ✓



Q21 General Science

A baby pulls a toy car along the ground. If the force and displacement are in the same direction, the work done is:

- A. equal to zero
- B. negative
- C. equal to the speed of the car
- D. equal to the product of force and displacement ✓

Q22 General Science

Which of the following organisms multiplies by the means of multiple fission mode of reproduction?

- A. Plasmodium ✓
- B. Leishmania
- C. Hibiscus
- D. Garden pea

Q23 General Science

Which of the following statements is correct about 'Bohr's model of an Atom'?

- A. While revolving in discrete orbits, the electrons radiate energy.
- B. While revolving in discrete orbits, the electrons do not exist.
- C. Only certain special orbits known as discrete orbits of electrons are allowed outside the atom.
- D. Only certain special orbits known as discrete orbits of electrons are allowed inside the atom. ✓

Q24 General Science

Which of the following is considered a major factor contributing to poor living standards in society?

- A. Inequality in the distribution of resources ✓
- B. Overuse of technology in urban areas
- C. Only the rapid growth of the population
- D. Only the level of education in society

Q25 General Science

What is the chemical formula for Glucose?

- A. CH_3COOH
- B. $\text{C}_6\text{H}_{12}\text{O}_6$ ✓
- C. $\text{C}_{11}\text{H}_{22}\text{O}_{11}$
- D. CH_4



General Science

25 Questions • Answer Key

Q1 General Science

A body of mass 2 kg is moving with a speed of 3 m/s. Its kinetic energy is _____.

A. 9 J



B. 6 J

C. 3 J

D. 18 J

Q2 General Science

A car moving at a speed of 720 km/hr comes to a stop in 4 seconds after the brakes are applied. If the total mass of the car and passengers is 80 kg, what is the force applied by the brakes?

A. -14,400 N

B. 4000 N

C. -4000 N



D. -2000 N

Q3 General Science

Which of the following functional groups is represented by -OH in carbon compounds?

A. Alcohol



B. Ketone

C. Carboxylic acid

D. Aldehyde

Q4 General Science

Oxidation is defined as:

A. gain of electrons

B. loss of electrons



C. gain of neutrons

D. loss of protons

Q5 General Science

Which of the following statements is correct about acceleration due to gravity?

A. It decreases with altitude



B. It is the same everywhere on Earth

C. It remains constant with depth

D. It increases as we go inside the Earth

Q6 General Science

The speed of sound in air is approximately 340 m/s. If a reflecting surface is 17 m away, how long does it take for an echo to return to the source?

A. 0.1 s



B. 0.05 s

C. 0.5 s

D. 1 s

Q7 General Science

Where is the embryo implanted after fertilisation in the human female body under normal conditions?

A. Cervix

B. Oviduct

C. Ovary

D. Uterus lining



Q8 General Science

On which of the following does resistivity of a material depend?

A. Nature of the material



B. Current passing through it

C. Shape of the conductor

D. Length and area of the conductor

Q9 General Science

Which of the following muscular structures is/are responsible for modifying the curvature and thus changing the focal length of the fibrous, jelly-like eye lens?

A. Retina

B. Iris

C. Pupil

D. Ciliary muscles



Q10 General Science

Which of the following statement is true regarding big dams and flood control?

- A. Big dams do not increase the risk of floods.
- B. Big dams can help in flood control by regulating river flow. ✓
- C. Big dams are never used for flood control.
- D. Big dams completely eliminate the possibility of floods.

Q11 General Science

In which of the following states of matter do particles possess the highest speed of rapid random motion?

- A. Solid only
- B. Liquid only
- C. Gas ✓
- D. Liquid and solid both

Q12 General Science

Which of the following is NOT an example of a tissue of an organism?

- A. Bone
- B. Neuron ✓
- C. Muscle
- D. Blood

Q13 General Science

Which of the following is related to human females in the same manner as vasectomy is related to human males?

- A. Tubectomy ✓
- B. Copper-T
- C. Cervical caps
- D. Coitus interruptus

Q14 General Science

Which of the following statements about a spherical lens is NOT correct?

- A. The line joining the two centres of curvature is called the principal axis.
- B. Every spherical lens has two centres of curvature.
- C. A concave lens also possesses two centres of curvature.
- D. The optical centre coincides with the centre of curvature. ✓

Q15 General Science

A solenoid behaves like a magnet because:

- A. Current in its turns produces a magnetic field ✓
- B. It has a high resistance
- C. It stores electricity
- D. It contains iron inside

Q16 General Science

Which of the following is a diatomic molecule formed by a non-metallic element?

- A. O₂ ✓
- B. Na
- C. Mg
- D. He

Q17 General Science

Which equation correctly represents the reaction of aluminum with hydrochloric acid?

- A. $\text{Al} + \text{HCl} \rightarrow \text{AlCl}_3 + \text{H}_2$
- B. $\text{Al} + \text{HCl} \rightarrow \text{AlCl} + \text{H}_2$
- C. $2\text{Al} + 3\text{HCl} \rightarrow 2\text{AlCl}_3 + 3\text{H}_2$
- D. $2\text{Al} + 6\text{HCl} \rightarrow 2\text{AlCl}_3 + 3\text{H}_2$ ✓

Q18 General Science

A force that changes the state of motion of an object is called:

- A. Unbalanced force ✓
- B. Frictional force
- C. Balanced force
- D. Gravitational force

Q19 General Science

Which of the following methods of reproduction ensures rapid increase in population?

- A. Asexual reproduction ✓
- B. Internal fertilisation
- C. Cross pollination
- D. Self pollination



Q20 General Science

Which of the following organs is present in chest cavity?

- A. Liver
- B. Pharynx
- C. Pancreas
- D. Lungs



Q21 General Science

What are the primary functions of xylem and phloem tissues in a plant?

- A. Both xylem and phloem transport food.
- B. Xylem transports water and minerals, phloem transports food.
- C. Both xylem and phloem transport water and minerals.
- D. Xylem transports food, phloem transports water and minerals.



Q22 General Science

Which of the following is the chemical formula of fullerene carbon allotropes?

- A. C0
- B. C60
- C. C6
- D. C



Q23 General Science

Which of the following statements best explains why isotopes of an element have identical chemical properties but different physical properties?

- A. Isotopes differ in the number of protons, leading to different behaviours in chemical reactions.
- B. Isotopes have the same atomic number but differ in their number of neutrons, which affects physical properties like mass.
- C. Isotopes have completely different atomic structures, affecting both their physical and chemical properties.
- D. Isotopes have the same number of protons and neutrons but different numbers of electrons.



Q24 General Science

What happens to the pH of a solution when the concentration of H⁺ ions increases?

- A. It remains the same.
- B. It cannot be determined.
- C. It increases.
- D. It decreases.



Q25 General Science

The main thinking part of the human brain is located in the:

- A. Mid-brain
- B. Spinal cord
- C. Fore-brain
- D. Medulla



General Science

25 Questions • Answer Key

Q1 General Science

Electric current is expressed as:

- A. amount of charge per unit length
- B. energy consumed per unit time
- C. rate of flow of electric charge ✓
- D. amount of charge per unit area

Q2 General Science

How does fumigation help in the safe storage of food grains?

- A. It increases the weight of the grains.
- B. It adds nutrients to the grains.
- C. It prevents moisture loss from grains.
- D. It kills pests and insects that could otherwise damage stored grains. ✓

Q3 General Science

Which of the following correctly identifies a solution where the solute and solvent are both elements, and the solution is homogeneous?

- A. Carbon dissolved in water
- B. Iron filings mixed with Sulphur
- C. Oxygen mixed with Nitrogen in air ✓
- D. Sugar dissolved in water

Q4 General Science

The work required by an external force to bring a moving body to rest is equal to:

- A. its momentum
- B. its weight
- C. its potential energy
- D. its kinetic energy ✓

Q5 General Science

The working principle of a stethoscope is based on the _____.

- A. absorption of high-frequency sound
- B. reflection of sound ✓
- C. conversion of sound into electric signals only
- D. conversion of sound into light for observation

Q6 General Science

Which functional group present in aldehyde?

- A. -CHO ✓
- B. -OH
- C. -CO
- D. -COOH

Q7 General Science

Which part of the neuron contains the nucleus and the cytoplasm?

- A. Cell body ✓
- B. Nerve endings
- C. Axon
- D. Dendrites

Q8 General Science

Which of the following statements is true for a concave lens?

- A. Image is always virtual and on the opposite side
- B. Image is always real
- C. Image is always virtual, erect, and on the same side as the object ✓
- D. Image is much larger than object

Q9 General Science

What happens to the density of a substance when the temperature of a substance increases?

- A. Density decreases ✓
- B. Density increases
- C. Density doubles
- D. Density has no effect

Q10 General Science

When lead nitrate reacts with potassium iodide, a yellow precipitate of compound 'X' is formed. Identify compound X.

- A. Lead(II) nitrite [Pb(NO₂)₂]
- B. Lead(II) nitrate [Pb(NO₃)₂]
- C. Lead(II) iodide (PbI₂) ✓
- D. Potassium nitrate (KNO₃)



Q11 General Science

Which of the following quantities does NOT affect the buoyant force acting on a body immersed in a fluid?

- A. Density of object ✓
- B. Gravitational acceleration
- C. Volume of displaced fluid
- D. Density of fluid

Q12 General Science

Which of the following statements about electric field lines is correct?

- A. They can form closed loops
- B. They never intersect ✓
- C. They are always straight lines
- D. They start on negative charges and end on positive charges

Q13 General Science

A man undergoes a minor surgical procedure that prevents sperm from mixing with semen. Which structure was most likely altered?

- A. Urethra
- B. Vas deferens ✓
- C. Testis
- D. Penis

Q14 General Science

Which of the following statements about adrenaline is INCORRECT?

- A. It increases heart rate and breathing rate to supply more oxygen to the muscles.
- B. It helps the body respond to stress or emergency by triggering the 'fight or flight' response.
- C. It reduces blood supply to the digestive system and directs it toward the skeletal muscles.
- D. It promotes digestion by increasing blood flow to the stomach. ✓

Q15 General Science

The DNA in the cell nucleus is the information source for the making of which of the following substances?

- A. Glucose
- B. Protein ✓
- C. Lipid
- D. Fructose

Q16 General Science

Which of the following is a biological method of crop protection?

- A. Burning crop residues
- B. Spraying DDT
- C. Introducing pest predators ✓
- D. Ploughing

Q17 General Science

Which of the following alcohols is commonly used as a fuel or fuel additive?

- A. Ethanol ✓
- B. Propanol
- C. Methanol
- D. Butanol

Q18 General Science

A car starts to move from rest and attains a velocity of 20 m/s in 4 seconds. What is the acceleration of the car?

- A. 5 m/s² ✓
- B. 80 m/s²
- C. 100 m/s²
- D. 4 m/s²

Q19 General Science

Ethanol is miscible with water due to presence of which functional group?

- A. Carboxyl group
- B. Carbon chain
- C. Hydroxyl group ✓
- D. Double bond

Q20 General Science

Which of the following statements correctly describes a typical physical property of metals?

- A. Metals are poor conductors of heat and electricity.
- B. Metals are generally brittle and break easily when hammered.
- C. Metals have low melting and boiling points.
- D. Metals are sonorous and produce sound when struck. ✓



Q21 General Science

For concave mirror, the height of an image above the principal axis _____.

A. is considered positive



B. depends on object position

C. is considered negative

D. is considered zero

Q22 General Science

Which of the following is a function of the Smooth Endoplasmic Reticulum (SER)?

A. Assembly of ribosomes

B. Synthesis of proteins

C. Modification of sugars

D. Manufacture of lipids

**Q23 General Science**

Which of the following is true about heterogeneous mixtures?

A. The composition is the same throughout

B. The components cannot be separated

C. The individual substances retain their properties



D. It behaves like a compound

Q24 General Science

A body moves along a straight line with varying speed. Its displacement in 10 s is 50 m. What is the average velocity?

A. 25 m/s

B. 50 m/s

C. 5 m/s



D. 10 m/s

Q25 General Science

Which of the following helps in maintaining reproductive health?

A. Early marriage

B. Health education and medical care



C. Junk food

D. Ignoring hygiene



General Science

25 Questions • Answer Key

Q1 General Science

A cube of side a is made of a material of resistivity ρ . What will be the resistance between two opposite faces of the cube?

- A. ρa
- B. $2\rho a$
- C. ρ/a^2
- D. ρ/a ✓

Q2 General Science

What is the molecular mass of glucose? (C = 12 u, H = 1 u, O = 16 u)

- A. 150 u
- B. 160 u
- C. 180 u ✓
- D. 120 u

Q3 General Science

When a person looks at a nearby object, the ciliary muscles:

- A. Relax and make the lens thinner
- B. Contract and make the lens thinner
- C. Contract and make the lens thicker ✓
- D. Relax and make the lens thicker

Q4 General Science

What is the motion of an object called when it travels along a circular path at a constant speed?

- A. Linear motion
- B. Non-uniform circular motion
- C. Non-linear motion
- D. Uniform circular motion ✓

Q5 General Science

The following vehicles are all moving at a velocity of 50 km/hr. All the vehicles need to be stopped at the same point. Which vehicle has to apply more force in breaks to stop the vehicle?

- A. Car
- B. Bicycle
- C. Bus ✓
- D. Scooter

Q6 General Science

If the mass of the moon is doubled while keeping the distance between Earth and the moon constant, the gravitational force between Earth and the moon would:

- A. Double ✓
- B. Remain the same
- C. Become zero
- D. Half

Q7 General Science

Which of the following groups is most at risk of HIV infections?

- A. People who do not exercise regularly
- B. People who exercise regularly
- C. People who maintain personal hygiene
- D. Individuals who have multiple unprotected sexual partners ✓

Q8 General Science

Which of the following statements about movement is INCORRECT?

- A. Movement is a characteristic of living organisms.
- B. Living organisms show internal or molecular movement, even when external movement is not visible.
- C. Molecular movement is only found in animals, not plants. ✓
- D. Growth-related movement in plants, like bending toward light, is a form of movement.



Q9 General Science

Over-secretion of growth hormone in adults results in which of the following?

- A. Graves' disease
- B. Addison's disease
- C. Dwarfism
- D. Acromegaly ✓

Q10 General Science

Which of the following is a chemical property?

- A. Boiling point
- B. Fluidity
- C. Burning in air ✓
- D. Melting point

Q11 General Science

If a device is rated 90 W at 120 V, the current drawn is _____.

- A. 1.33 A
- B. 0.75 A ✓
- C. 0.25 A
- D. 1.50 A

Q12 General Science

Which of the following is formed by each step of the food chain?

- A. Troposphere level
- B. Ozone layer
- C. Stratosphere level
- D. Trophic level ✓

Q13 General Science

The kinetic energy of a body of mass m moving with a velocity v m/s is 'X' J. If the velocity of the body changes to $4v$ m/s, what will be the value of kinetic energy?

- A. $4X$ J
- B. $2X$ J
- C. $8X$ J
- D. $16X$ J ✓

Q14 General Science

Which of the following is the most common simple permanent tissue in plants?

- A. Parenchyma ✓
- B. Sclerenchyma
- C. Chlorenchyma
- D. Aerenchyma

Q15 General Science

Apiaries help us in the production of which of the following food materials?

- A. Milk
- B. Fish
- C. Honey ✓
- D. Poultry egg

Q16 General Science

Which of the following properties makes ethanol a better alternative fuel compared to petrol?

- A. Ethanol burns with a clean, smokeless flame ✓
- B. Ethanol has a higher boiling point than petrol
- C. Ethanol is a solid fuel
- D. Ethanol produces harmful smoke when burned

Q17 General Science

Which of the following statements is correct about the image formed by a convex mirror?

- A. Virtual and erect image ✓
- B. Real and erect image
- C. Magnified image
- D. Real and inverted image

Q18 General Science

Which of the following will NOT show Tyndal effect?

- A. Milk
- B. Starch
- C. Copper sulphate solution ✓
- D. Emulsion



Q19 General Science

In which of the following forms of reproduction, both sexes, males and females are needed to produce new generations?

- A. Spore formation
- B. Budding
- C. Sexual reproduction
- D. Fragmentation

Q20 General Science

The _____ ores are converted to their respective oxides by the process of roasting.

- A. chloride
- B. sulphide
- C. sulphite
- D. carbonate

Q21 General Science

A white solid reacts with dilute HCl, producing a gas that turns lime water milky. What can be definitely concluded?

- A. The solid is a metal carbonate, releasing carbon dioxide.
- B. The solid is calcium carbonate.
- C. The gas is carbon dioxide; the solid is either a carbonate or bicarbonate.
- D. The gas is hydrogen, indicating a reactive metal.

Q22 General Science

The covalent bonding behaviour of the carbon compounds corresponds to which of the following characteristics of these compounds?

- A. Low boiling point
- B. Both low melting and boiling point
- C. High conductance
- D. Low melting point

Q23 General Science

What is the chemical formula of baking soda?

- A. NaHCO_3
- B. Na_2CO_3
- C. NaOH
- D. NaCl

Q24 General Science

Which statement is INCORRECT about fragmentation (asexual reproduction)?

- A. Produces genetically identical offspring
- B. Occurs in multicellular organisms
- C. Spore formation is a type of fragmentation process
- D. Involves maturation before splitting

Q25 General Science

How does the sound of a patient's heartbeat reach the doctor's ears through a stethoscope?

- A. The sound travels directly through the stethoscope without any reflection.
- B. The stethoscope uses electricity to amplify the heartbeat sound.
- C. The sound is carried by moving air from the chest to the doctor's ears.
- D. In stethoscopes, the sound of the patient's heartbeat reaches the doctor's ears by multiple reflection of sound.



General Science

25 Questions • Answer Key

Q1 General Science

What does the potential energy of an object depend on?

- A. Its temperature
- B. Its colour and shape
- C. Its position or arrangement ✓
- D. Its speed during motion

Q2 General Science

Which of the following best describes Thomson's model of an atom?

- A. An atom is mostly empty space with a dense nucleus.
- B. An atom has a positively charged nucleus and electrons outside.
- C. An atom is a sphere of positive charge with electrons embedded in it like seeds in a watermelon. ✓
- D. Electrons revolve around the nucleus in fixed orbits.

Q3 General Science

Approximately what percentage of energy is transferred from one trophic level to the next in an ecosystem?

- A. 10% ✓
- B. 1%
- C. 50%
- D. 90%

Q4 General Science

The process used for removing gangue from the ore works on the basis of difference of their chemical or physical properties and is called _____ of ores.

- A. enrichment ✓
- B. polishing
- C. colouring
- D. weighing

Q5 General Science

Washing soda is obtained from baking soda by which of the following processes?

- A. Mixing baking soda with lime water
- B. Heating baking soda followed by crystallisation from water ✓
- C. Evaporation of baking soda in sunlight
- D. Adding hydrochloric acid to baking soda

Q6 General Science

Waste generated by developing human embryo is removed with the help of which of the following organs?

- A. Ovaries
- B. Scrotum
- C. Fallopian tube
- D. Placenta ✓

Q7 General Science

What is the term for the process in which white light breaks up into different colours?

- A. Refraction
- B. Reflection
- C. Dispersion ✓
- D. Scattering

Q8 General Science

If an object weighs 60 N when measured on the surface of the Earth, what would be its approximate weight when measured on the surface of the Moon?

- A. 60 N
- B. 360 N
- C. 15 N
- D. 10 N ✓



Q9 General Science

Which of the following statements about magnetic field lines is correct?

- A. They originate only from the centre of the magnet
- B. They show the path of charged particles
- C. They form closed loops inside and outside the magnet ✓
- D. They always intersect

Q10 General Science

Read the given statements with regards to importance of variation produced by sexual reproduction in plants and select the most appropriate option.

Statement A: Reproduction is linked to the stability of populations of species.

Statement B: Variation is thus not useful for the survival of species over time.

- A. Both Statement A and statement B is incorrect
- B. Statement A is correct but statement B is incorrect ✓
- C. Both Statement A and statement B is correct
- D. Statement A is incorrect but statement B is correct

Q11 General Science

When an acid reacts with a metal carbonate, which gas is typically produced?

- A. Oxygen gas
- B. Carbon dioxide gas ✓
- C. Hydrogen gas
- D. Nitrogen gas

Q12 General Science

Which Rutherford's experiment led to the discovery of the atomic nucleus?

- A. Beta-particle scattering
- B. Alpha-particle scattering ✓
- C. Cathode Ray experiment
- D. Photoelectric effect

Q13 General Science

When solutions of lead(II) nitrate and potassium iodide are mixed, the reaction leads to the formation of which of the following?

- A. An orange precipitate of lead iodide is formed.
- B. A yellow precipitate of lead sulphate is formed.
- C. An orange precipitate of lead iodate is formed.
- D. A yellow precipitate of lead iodide is formed. ✓

Q14 General Science

Which of the following is responsible for positive geotropism movement in plants?

- A. Water
- B. Gravity ✓
- C. Chemical
- D. Light

Q15 General Science

What is prevented when the fallopian tubes in females are blocked?

- A. Fertilisation ✓
- B. Menstrual cycle
- C. Childbirth
- D. Egg production

Q16 General Science

An electric iron operating at 220 V consumes energy at a rate of 840 W when the heating is at its maximum. What is the resistance of the coil used in the iron?

- A. 55.6 Ω
- B. 57.6 Ω ✓
- C. 50.6 Ω
- D. 47.6 Ω

Q17 General Science

What is the direction of velocity in uniform circular motion?

- A. Away from the circle
- B. Along the tangent to the circle ✓
- C. Towards the centre of the circle
- D. Along the radius of the circle



Q18 General Science

What is the type of bonding that usually exists in most of the carbon compounds?

- A. Hydrogen bonding
- B. Coordinate bonding
- C. Covalent bonding ✓
- D. Ionic bonding

Q19 General Science

Which of the following pair is a correct example, which shows number of Valency as 2?

- A. Sulphate and sulphite ✓
- B. Phosphate and nitride
- C. Sodium and sulphate
- D. Ammonium and sulphate

Q20 General Science

A sound wave has a frequency of 4 kHz and a wavelength of 15 cm. How much time will it take to cover a distance of 1.8 km?

- A. 4 seconds
- B. 3 seconds ✓
- C. 0.003 seconds
- D. 0.03 seconds

Q21 General Science

In eukaryotic cells, the smooth endoplasmic reticulum is mainly responsible for:

- A. Lipid synthesis and detoxification ✓
- B. Protein synthesis
- C. Sugar breakdown
- D. Genetic information storage

Q22 General Science

In addition to plasma membrane, which of the following outer coverings is present in plant cells?

- A. Nuclear membrane
- B. Cytoplasm
- C. Cell wall ✓
- D. Centriole

Q23 General Science

A cell divides to form two identical daughter cells, each having the same chromosome number as the parent cell. What type of cell division is this called?

- A. Meiosis
- B. Cytokinesis
- C. Budding
- D. Mitosis ✓

Q24 General Science

A body of mass 2 kg is moving with a velocity of 10 m/s. A force of 4 N is applied for 5 s. The final velocity is:

- A. 35 m/s
- B. 25 m/s
- C. 15 m/s
- D. 20 m/s ✓

Q25 General Science

Which of the following statements is responsible for the atmospheric refraction?

- A. Bending of light due to change in air density ✓
- B. Absorption of light by air molecules
- C. Scattering of light in atmosphere
- D. Reflection of light by atmosphere



General Science

25 Questions · Answer Key

Q1 General Science

Which of the following factors does NOT increase the rate of evaporation?

- A. Increase in surface area
- B. Increase in humidity ✓
- C. Increase in wind speed
- D. Increase of temperature

Q2 General Science

Which of the following statements is correct for uniform motion?

- A. The slope of the distance–time graph is decreasing.
- B. The slope of the distance–time graph is increasing.
- C. The slope of the distance–time graph is zero.
- D. The slope of the distance–time graph is constant. ✓

Q3 General Science

Which of the following organs is involved in the function of reflex action?

- A. Middle ear
- B. Spleen
- C. Kidney
- D. Spinal cord ✓

Q4 General Science

What unique property of carbon atoms enables them to form long and stable chains with other carbon atoms?

- A. Tetravalency
- B. Catenation ✓
- C. Isomerism
- D. Allotropy

Q5 General Science

Which of the following correctly describes the sequence of events leading to muscle movement?

- A. Nerve impulse → Muscle protein response → Muscle contraction ✓
- B. Blood flow → Protein activation → Nerve impulse → Movement
- C. Digestion → Blood circulation → Movement
- D. DNA replication → Protein synthesis → Muscle movement

Q6 General Science

When gypsum is heated at 373 K, it loses water of crystallisation and forms _____.

- A. calcium chloride pentahydrate
- B. calcium chloride hemihydrate
- C. calcium sulphate hemihydrate ✓
- D. calcium sulphate pentahydrate

Q7 General Science

Baking soda is prepared using which of the following processes?

- A. Chlor-alkali process
- B. Solvay process ✓
- C. Deacon's process
- D. Haber process

Q8 General Science

Which of the following correctly explains the importance of pH in everyday life?

- A. A bee sting injects a basic liquid, so it is treated with a weak acid like vinegar.
- B. Tooth enamel dissolves when the pH of the mouth rises above 7.5 due to bacterial activity.
- C. Acid rain has pH greater than 7, which harms aquatic life.
- D. Our stomach secretes hydrochloric acid to maintain a pH around 2, aiding digestion. ✓



Q9 General Science

Among the following materials, which one has the highest electrical resistivity at room temperature?

A. Manganese



B. Iron

C. Chromium

D. Mercury

Q10 General Science

Which of the following organs in human females can produce hormones?

A. Ovaries



B. Fallopian tubes

C. Salivary glands

D. Cervix

Q11 General Science

What is the formula to calculate the acceleration due to gravity (g), where G is the universal gravitational constant, M is the mass of the Earth, and R is the radius of the Earth?

A. $g = GM/R^2$



B. $g = GM^2/R$

C. $g = GM/R$

D. $g = GR/M^2$

Q12 General Science

Which of the following conditions will NOT favour evaporation?

A. Low Humidity

B. High Wind Speed

C. High Humidity



D. High Temperature

Q13 General Science

Cells of the meristematic tissue lack vacuoles because:

A. Meristematic cells are dead and do not need vacuoles

B. Meristematic cells are actively dividing and need a dense cytoplasm



C. Vacuoles block respiratory enzymes

D. Vacuoles cause cell death

Q14 General Science

A concave lens has a focal length of 15 cm. An object is placed at a distance of 30 cm from the lens. What is the magnification produced by the lens?

A. +0.66

B. -0.33

C. +0.33



D. -0.66

Q15 General Science

What is the main function of leucoplasts in plant cells?

A. Breaking down waste materials

B. Storing materials like starch, oils, and proteins



C. Absorbing sunlight

D. Giving colour to flowers

Q16 General Science

Which of the following was the scientist who blended his knowledge of science and mathematics to arrive at the laws of inheritance?

A. Gregor Johann Mendel



B. E Rutherford

C. Camillo Golgi

D. John Dalton

Q17 General Science

Which of the following statements is correct about the nature of the image formed by a concave mirror when the object is placed between the principal focus and the pole?

A. Real, inverted, diminished

B. Real, inverted, same size

C. Real, inverted, highly diminished (point image)

D. Virtual, erect, magnified

**Q18 General Science**

Which of the following best defines an ion?

A. An atom or group of atoms that has a positive or negative charge



B. An atom with equal number of protons and electrons

C. A neutral particle formed by the combination of atoms

D. A molecule with more neutrons than protons



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Q19 General Science

Which of the following statements best explains kinetic energy?

- A. It is the energy stored in an object due to its shape.
- B. It is the energy that decreases as the object's speed increases.
- C. It is the energy an object has because of its motion, and it increases as the object's speed increases.**
- D. It is the energy an object has because it is at rest.

Q20 General Science

How do plant cells respond immediately to a stimulus without specialized proteins like animal muscle cells?

- A. By producing immune responses
- B. By changing water content to cause swelling or shrinking**
- C. By breaking down food to release energy instantly
- D. By secreting enzymes only

Q21 General Science

Why are sound waves classified as mechanical waves?

- A. They are characterised by the motion of particles in a medium**
- B. They oscillate perpendicular to wave propagation
- C. They cause light oscillations
- D. They do not require a medium to travel

Q22 General Science

Which of the following statements is INCORRECT about DNA copies produced during the process of reproduction?

- A. DNA copies are single stranded.
- B. DNA copying is a completely error-free process.**
- C. Copying of DNA is a pre-requisite for reproduction.
- D. DNA copies generated are similar but not identical.

Q23 General Science

Which of the following statements is correct for the magnetic field inside a long, straight, current-carrying solenoid?

- A. It is zero.
- B. It increases as we move towards its end.
- C. It decreases as we move towards its end.
- D. It is the same at all points.**

Q24 General Science

Structural formula of branched chain organic compound 'Neopentane' may be represented by:

- A. $\text{CH}_3\text{-CH}(\text{CH}_3)\text{-CH}_3$
- B. $\text{C}(\text{CH}_3)_4$**
- C. $\text{CH}_3\text{-CH}(\text{CH}_3)\text{-CH}_2\text{-CH}_3$
- D. $\text{CH}_3\text{-CH}(\text{CH}_3)\text{-CH}_2\text{-CH}_2\text{-CH}_3$

Q25 General Science

A satellite is moving in a uniform circular orbit around the Earth. Which of the following statements about its motion is correct?

- A. The satellite has a constant velocity and a constant acceleration.
- B. The satellite has a constant speed and no acceleration.
- C. The satellite has a constant speed, but its velocity is not constant.**
- D. The satellite has a constant velocity, but its speed is not constant.



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is a homogeneous mixture?

- A. Air ✓
- B. Oil and water
- C. Soil
- D. Sand and iron filings

Q2 General Science

Which of the following is true about the magnetic field inside a solenoid?

- A. It is uniform and in the form of parallel straight lines. ✓
- B. It is zero.
- C. It forms random patterns.
- D. It is non-uniform.

Q3 General Science

Which of the following compounds is classified as a saturated hydrocarbon?

- A. Ethyne
- B. Ethane ✓
- C. Ethene
- D. Benzene

Q4 General Science

In Spirogyra, each fragment develops into a complete individual. What can be the possible reason for this?

- A. Each fragment has complex organs.
- B. Each fragment has roots.
- C. Each cell is capable of independent growth. ✓
- D. Fragmentation happens only under laboratory conditions.

Q5 General Science

When a ray of light passes through the optical centre of a spherical lens, it ____.

- A. Gets deviated away from the normal
- B. Emerges undeviated ✓
- C. Bends toward the focus
- D. Always reflects back

Q6 General Science

An object is said to be in uniform motion if:

- A. it covers equal distances in unequal time intervals
- B. it covers unequal distances in equal time intervals
- C. it covers unequal distances in unequal time intervals
- D. it covers equal distances in equal time intervals ✓

Q7 General Science

Plaster of Paris is prepared by heating which of the following?

- A. Baking soda
- B. Gypsum ✓
- C. Limestone
- D. Slaked lime

Q8 General Science

Which of the following statements is correct about reproduction?

1. Bulls alone can produce a calf.
2. Hens alone can not produce new chicks.

- A. Both statements are correct.
- B. Statement 2 is correct but Statement 1 is false. ✓
- C. Both statements are false.
- D. Statement 1 is correct but Statement 2 is false.

Q9 General Science

What makes the brain suitable for thinking activities?

- A. Its complex arrangement of many neurons ✓
- B. Its location near the ears
- C. Its smooth surface
- D. Its connection to the heart



Q10 General Science

During indigestion, the stomach produces too much acid, that may be neutralised by which of the following?

- A. Magnesium carbonate (Milk of magnesia)
- B. Magnesium sulphate (Milk of magnesia)
- C. Magnesium oxide (Milk of magnesia)
- D. Magnesium hydroxide (Milk of magnesia) ✓

Q11 General Science

The energy possessed by a moving object due to its motion is called:

- A. thermal energy
- B. potential energy
- C. kinetic energy ✓
- D. chemical energy

Q12 General Science

Which of the following conditions will NOT increase the rate of evaporation?

- A. Decreased Wind Speed ✓
- B. Increased Temperature
- C. Increased Surface Area
- D. Decreased Humidity

Q13 General Science

Which of the following tissues is very elastic and used to connect two bones in our body?

- A. Mast cell
- B. Macrophage
- C. Ligament ✓
- D. Adipocyte

Q14 General Science

Which meristematic tissue has the highest levels of Auxin?

- A. Apical Meristematic tissue ✓
- B. Xylem
- C. Intercalary Meristematic tissue
- D. Lateral Meristematic tissue

Q15 General Science

An object has a weight of 24 N on Earth. What will be its weight on the Moon's surface?

- A. 6 N
- B. 144 N
- C. 4 N ✓
- D. 240 N

Q16 General Science

Which of the following quantities represents the slope in a displacement–time graph?

- A. Acceleration
- B. Speed
- C. Distance
- D. Linear velocity ✓

Q17 General Science

Which of the following is NOT a biotic loss during the storage of grains?

- A. Loss by rodents
- B. Loss by mites
- C. Loss by inappropriate moisture ✓
- D. Loss by insects

Q18 General Science

The effect of multiple reflections of sound in large halls or auditoriums is, _____.

- A. it converts sound into heat
- B. it helps in uniform distribution of sound ✓
- C. it blocks sound propagation
- D. it eliminates all echoes

Q19 General Science

Which of the following statements about the magnetic field due to a circular loop is true?

- A. The field depends on current and radius. ✓
- B. The field lines at the centre are circular.
- C. The field lines are parallel to the plane of the loop.
- D. The field is uniform everywhere around the loop.



Q20 General Science

Which gas is used by animals to live under water?

- A. Carbon dioxide
- B. Nitrogen
- C. Dissolved oxygen ✓
- D. Dry carbon dioxide

Q21 General Science

Which of the following eye defects is mainly due to the weakening of the power of accommodation with age?

- A. Hypermetropia
- B. Myopia
- C. Astigmatism
- D. Presbyopia ✓

Q22 General Science

Which of the following life processes leads to the breakdown of glucose in the absence of oxygen?

- A. Digestion
- B. Aerobic respiration
- C. Fermentation ✓
- D. Excretion

Q23 General Science

The IUPAC name of following compound is _____.



- A. 3-Bromopentane
- B. 2-Bromopentane ✓
- C. 2-Bromopentene
- D. 1-Bromopentane

Q24 General Science

In the following reaction, $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$, iron:

- A. is oxidised ✓
- B. is unchanged
- C. is reduced
- D. acts a catalyst

Q25 General Science

In a genetic lab, a fertilised human embryo is found to have XX chromosomes. Which of the following is true?

- A. The embryo lacks sex chromosomes.
- B. The embryo will become a human female. ✓
- C. The embryo will become a human male.
- D. The embryo has an extra Y chromosome.



General Science

25 Questions • Answer Key

Q1 General Science

What is the name of the place where bees are kept for commercial honey production?

- A. Sanctuary
- B. Apiary
- C. Aquarium
- D. Aviary



Q2 General Science

Which of the following methods is NOT effective to prevent the corrosion of metals?

- A. Applying sacrificial anodes
- B. Galvanisation
- C. Exposure to moisture
- D. Painting



Q3 General Science

The reactivity series, also known as the activity series, is a list of metals arranged in order of their:

- A. increasing reactivity
- B. first decreasing, then increasing reactivity
- C. decreasing reactivity
- D. first increasing, then decreasing reactivity



Q4 General Science

A gun recoils backward when fired. The backward motion of the gun is due to:

- A. Air resistance
- B. Reaction force of the bullet on the gun
- C. Friction between gun and person
- D. Gravity acting on the gun



Q5 General Science

Which of the following compounds is unsaturated?

- A. Propane
- B. Propene
- C. Butane
- D. Methane



Q6 General Science

A charge of 1.5 C is moved through a potential difference. If the work done is 30 J, what is the potential difference between the two points?

- A. 45 V
- B. 20 V
- C. 30 V
- D. 25 V



Q7 General Science

Which of the following gases is evolved when dilute hydrochloric acid reacts with sodium hydrogencarbonate?

- A. Carbon dioxide
- B. Nitrogen
- C. Oxygen
- D. Hydrogen



Q8 General Science

What is the need for sexual reproduction in plants?

- A. To eliminate the need for pollination
- B. To produce identical clones
- C. To avoid growing flowers
- D. To increase genetic variation for better adaptation



Q9 General Science

A concave lens produces an image one-third the size of the object. If the focal length is 12 cm, the object distance is:

- A. 12 cm
- B. 18 cm
- C. 36 cm
- D. 24 cm



Q10 General Science

Which of the following environmental cues determined the sex of fertilised egg in few reptiles?

- A. Water
- B. Temperature
- C. Touch
- D. Wind velocity



Q11 General Science

Sound waves in air are longitudinal because:

- A. Particles move along the direction of propagation** ✓
- B. Particles move perpendicular to direction of propagation
- C. Particles move randomly
- D. Air molecules do not vibrate

Q12 General Science

Which of the following is a popular marine fish variety found in India?

- A. Pomfret** ✓
- B. Mrigal
- C. Rohu
- D. Catla

Q13 General Science

Which of the following cell organelles releases Adenosine Tri Phosphate (ATP) molecules needed for life activities?

- A. Mitochondria** ✓
- B. Lysosomes
- C. Golgi apparatus
- D. Vacuoles

Q14 General Science

If a body falls freely from a height, its potential energy is converted into _____.

- A. Thermal energy
- B. Chemical energy
- C. Sound energy
- D. Kinetic energy** ✓

Q15 General Science

The atomic number is defined as the total number of _____ present in the nucleus of an atom.

- A. only neutrons
- B. neutrons and half of the protons
- C. only protons** ✓
- D. protons and neutrons

Q16 General Science

In the sign convention for lenses, all distances are measured from:

- A. The optical centre of the lens** ✓
- B. The principal axis only
- C. The focus of the lens
- D. The pole of the lens

Q17 General Science

A car travels 100 km at an average speed of 50 km h^{-1} and immediately returns along the same route covering the distance in 1 hour. What is the average speed of the car for the entire journey in m s^{-1} ?

- A. 16.67 m s^{-1}
- B. 13.9 m s^{-1}
- C. 20.0 m s^{-1}
- D. 18.52 m s^{-1}** ✓

Q18 General Science

If the thrust acting on a surface is constant but the area of contact decreases, the pressure:

- A. becomes zero
- B. increases** ✓
- C. remains the same
- D. decreases

Q19 General Science

What is the atomic mass of Carbon-13 Isotope?

- A. 12 amu
- B. 13 amu** ✓
- C. 14 amu
- D. 11 amu



Q20 General Science

Read the statements given below and select the correct option.

Statement I: Zinc displaces copper from copper sulphate solution, but copper cannot displace zinc from zinc sulphate solution.

Statement II: Zinc is more reactive than copper in the reactivity series.

- A. Only statement II is correct.
- B. Both statements are correct, but Statement II does not explain Statement I.
- C. Both statements are correct, and Statement II correctly explains Statement I. ✓
- D. Only statement I is correct.

Q21 General Science

Which of the following organisms reproduce by the method of binary fission?

- A. Leishmania ✓
- B. Neem plant
- C. Rose plant
- D. Butterfly

Q22 General Science

In the connective tissue, what is the relative position of the cells with respect to each other?

- A. Tightly packed
- B. Far away from each other ✓
- C. Loosely packed
- D. One above the other

Q23 General Science

The Law of conservation of mass states that:

- A. mass can neither be created nor destroyed in a chemical reaction ✓
- B. volume can neither be created nor destroyed in a chemical reaction
- C. pressure can neither be created nor destroyed in a chemical reaction
- D. temperature can neither be created nor destroyed in a chemical reaction

Q24 General Science

Which of the following represents an end product of anaerobic respiration in animals?

- A. Lactic acid ✓
- B. Carbon monoxide
- C. Glucose
- D. Oxygen

Q25 General Science

The magnetic field at the centre of a current carrying circular loop is directly proportional to _____.

- A. inverse of current flowing through the loop
- B. the square of the radius of the circular loop
- C. the current flowing through the loop ✓
- D. the square of the current flowing through the loop



General Science

25 Questions • Answer Key

Q1 General Science

Which among the following is NOT a physical characteristic of ionic compounds?

A. Insoluble in water



B. High melting point

C. Conducts electricity in molten state

D. High boiling point

Q2 General Science

What are the two main properties of carbon that contribute to its 'versatile nature' and its ability to form a large number of compounds?

A. Isomerism and allotropy

B. High melting point and ductility

C. Catenation and tetravalency



D. Good conductivity and sonorous nature

Q3 General Science

Which of the following best explains the term 'formula unit mass'?

A. The mass of a single atom of an element

B. The total mass of all atoms in one formula unit of a compound



C. The mass of a single molecule of an element

D. The mass of one mole of a substance

Q4 General Science

Which of the following situations involves an unbalanced force?

A. A book kept on a table

B. A ball rolling on the ground and eventually stopping



C. A person standing still on the ground

D. A car moving with uniform speed on a straight road

Q5 General Science

Which of the following cells has dendrite on one end?

A. Neuron



B. Monocyte

C. Red blood cell

D. Platelet

Q6 General Science

Which of the following statements is NOT true about average speed?

A. Average speed only needs the magnitude, not direction

B. To find speed, we need both the magnitude and direction of the object



C. Its SI unit is metres per second (m/s)

D. Speed is calculated as distance divided by time

Q7 General Science

The most common electrolyte to be used for electrolytic refining of copper would be the solution of acidified:

A. copper chloride

B. copper oxide

C. copper carbonate

D. copper sulphate



Q8 General Science

Which of the following statements is correct?

A. Right-hand thumb rule gives the direction of magnetic field around a straight conductor.



B. Right-hand thumb rule cannot be applied to a straight conductor.

C. Right-hand thumb rule cannot be applied to circular loops.

D. Right-hand thumb rule can be used to find the force on a conductor in a magnetic field.

Q9 General Science

What is the role of the pollen tube in plant fertilisation?

A. To transport the male germ cell to the female germ cell



B. To form the zygote

C. To transport pollen grains to the stigma

D. To produce the male germ cell



Q10 General Science

Which of the chemical formulae represents bleaching powder?

A. $\text{Ca}(\text{ClO})_2$ ✓

B. $\text{Ca}_2(\text{ClO})_2$

C. $\text{Ca}(\text{ClO}_2)_2$

D. $\text{Ca}(\text{ClO}_2)$

Q11 General Science

If a current-carrying conductor is placed in a magnetic field and the direction of current is reversed, the force on the conductor _____.

A. doubles

B. remains the same

C. reverses direction ✓

D. becomes zero

Q12 General Science

Which type of meristematic tissue is responsible for increase in the height of plants?

A. Secondary meristem

B. Lateral meristem

C. Cambium

D. Apical meristem ✓

Q13 General Science

Which of the following shows acidic behaviour in aqueous solution?

A. NaOH

B. HCl ✓

C. $\text{Ca}(\text{OH})_2$

D. KOH

Q14 General Science

Which of the following is true regarding loudness of sound?

A. Loudness depends on the amplitude. ✓

B. Loudness depends on the wavelength.

C. Loudness depends on the speed of wave.

D. Loudness depends on the frequency.

Q15 General Science

Which of the following movements is brought about by voluntary muscles?

A. Movement of tongue ✓

B. Movement of heart

C. Movement in intestines

D. Movement in the stomach walls

Q16 General Science

Which of the following statement(s) is/are true about the pressure exerted by fluids?

(i) Fluids exert pressure on the base and walls of the container in which they are enclosed.

(ii) Pressure exerted in any confined mass of fluid is transmitted unequally in different directions.

A. Only (ii)

B. Only (i) ✓

C. Neither (i) nor (ii)

D. Both (i) and (ii)

Q17 General Science

The defect in which a person cannot see distant objects clearly but can see nearby objects is called _____.

A. astigmatism

B. myopia ✓

C. hypermetropia

D. presbyopia

Q18 General Science

Which incident was responsible for the beginning of the Chipko Movement in the village of Reni?

A. Sale of forest by local residents

B. Approval given to a contractor to fell trees near the village ✓

C. Industrial development planned by villagers

D. Government decision to use forest land for farming

Q19 General Science

Select the group of organisms in which asexual reproduction occurs by fission.

A. Flowering plants

B. All seed plants

C. All plants

D. Blue-green algae ✓



Q20 General Science

Work done by a constant force is zero if:

- A. force is variable
- B. force is large
- C. displacement is small
- D. displacement is zero or perpendicular to force ✓

Q21 General Science

A convex lens has a focal length of 25 cm. What is the power of this convex lens?

- A. -4.0 D
- B. -2.0 D
- C. +3.0 D
- D. +4.0 D ✓

Q22 General Science

Which of the following statements is correct about the 'Attraction of particles of matter'?

- A. The force of attraction is same for different particles.
- B. The force of attraction is more in liquids as compared to solids.
- C. The force of attraction is different for different particles. ✓
- D. The force of attraction is less in liquids as compared to gases.

Q23 General Science

Which of the following options is INCORRECT regarding when rate of evaporation increases?

- A. Increase in surface area
- B. Increase in humidity ✓
- C. Increase in temperature
- D. Increase in wind speed

Q24 General Science

Through which part of the female reproductive system does the egg travel from the ovary to the uterus?

- A. Fallopian tube ✓
- B. Ureter
- C. Cervix
- D. Vagina

Q25 General Science

A farmer wants to improve both the quantity and quality of honey produced on their farm. What practice should they adopt?

- A. Reduce the number of flowering plants
- B. Ensure nectar-rich flowers bloom throughout the season ✓
- C. Remove all wildflowers from the area
- D. Keep the bees in shaded areas away from plants



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is responsible for the basic nature of a substance?

A. OH-



B. Cl-

C. Na+

D. H+

Q2 General Science

Bone is classified as connective tissue primarily because it:

A. Transports oxygen

B. Lacks any matrix substance

C. Contains cells dispersed in a mineralised extracellular matrix



D. Produces nerve impulses

Q3 General Science

Which of the following statements is correct for life processes in plants?

A. Environment is under the control of most plants.

B. The environmental sources of energy are uniform.

C. Environment is under the control of very few plants.

D. Environment is not under the control of plants.



Q4 General Science

200 J of heat is produced per second in an $8\ \Omega$ resistance. What is the potential difference across the resistor?

A. 40 V



B. 50 V

C. 30 V

D. 20 V

Q5 General Science

In graphite, each carbon atom is bonded to three other carbon atoms in the same plane giving a _____ array.

A. square pyramidal

B. pentagonal

C. tetragonal

D. hexagonal



Q6 General Science

In a domestic electric circuit, the main purpose of a FUSE is _____.

A. To store electricity

B. To reduce voltage

C. To prevent overloading and protect appliances



D. To increase current

Q7 General Science

Which type of muscle is found in the walls of internal organs like the stomach and intestines?

A. Voluntary muscle

B. Skeletal muscle

C. Smooth muscle



D. Striated muscle

Q8 General Science

Which of the following is NOT a method of reproduction by a solitary individual organism?

A. Fission

B. Fragmentation

C. Sexual reproduction



D. Regeneration

Q9 General Science

A high-pitch and a low-pitch sound have _____, respectively.

A. high amplitude and low frequency

B. high frequency and low frequency



C. low amplitude and high frequency

D. low frequency and high frequency

Q10 General Science

Which of the following factors is NOT responsible for corrosion?

A. Alloying



B. Water

C. Air

D. Acid



Q11 General Science

Which of the following is a primary advantage of constructing a big dam?

- A. Decentralised energy production
- B. Immediate increase in local biodiversity
- C. Prevention of all downstream flooding
- D. Generation of hydroelectric power ✓

Q12 General Science

Which of the following are cultivated for the pearls they make?

- A. Sardines
- B. Pomfrets
- C. Prawns
- D. Oysters ✓

Q13 General Science

Which of the following phenomena is NOT a physical change?

- A. Melting of ice
- B. Freezing of water
- C. Burning of candle ✓
- D. Boiling of water

Q14 General Science

Which of the following functions is NOT performed by the placenta?

- A. Produces hormones to support pregnancy
- B. Removes carbon dioxide and waste from fetal blood
- C. Allows oxygen and nutrients to pass from mother to fetus
- D. Secretes oxytocin to start childbirth ✓

Q15 General Science

What is the chemical formula of magnesium chloride?

- A. $MgCl_2$ ✓
- B. $MgCl_3$
- C. Mg_2Cl
- D. $MgCl$

Q16 General Science

Which of the following statement(s) is true when a straw appears bent when placed in a glass of water?

Statement 1: The incident ray, refracted ray, and normal lie in the same plane.

Statement 2: The ratio of sine of angle of incidence to sine of angle of refraction is constant.

- A. Only statement 1
- B. Neither statement 1 nor 2
- C. Both statement 1 and 2 ✓
- D. Only statement 2

Q17 General Science

Which of the following statements is true for a velocity-time graph of uniform velocity?

- A. The graph is a curve
- B. Area under curve = speed, not displacement
- C. Slope = Acceleration $\neq 0$
- D. Slope = Acceleration = 0 ✓

Q18 General Science

If a person does an amount of work W in time t, how is power calculated?

- A. Power = work $\div$ time ✓
- B. Power = work + time
- C. Power = time $\div$ work
- D. Power = work $\times$ time

Q19 General Science

Why are the testes positioned externally rather than inside the abdominal cavity?

- A. To form a common passage for urine and sperms
- B. To maintain a lower temperature for sperm formation ✓
- C. To regulate testosterone production
- D. To facilitate sperm transport

Q20 General Science

What is a key feature of Rutherford's atomic model?

- A. Atom has a dense positive nucleus at the center. ✓
- B. Electrons are fixed in shells around the nucleus.
- C. Atom is a uniform positive sphere throughout.
- D. Nucleus contains only electrons with negative charge.



Q21 General Science

A person wearing shoes with total area 0.02 m^2 stands on the ground. If the person's weight is 600 N , the pressure on the ground is _____.

- A. 1200 N/m^2
- B. $30,000 \text{ N/m}^2$ ✓
- C. $12,000 \text{ N/m}^2$
- D. 600 N/m^2

Q22 General Science

Butane (C_4H_{10}) exists in two different forms: one with a straight chain and one with a branched chain. What is this phenomenon called?

- A. Sublimation
- B. Polymerisation
- C. Isomerism ✓
- D. Catenation

Q23 General Science

A coin is placed on a card covering a glass. When the card is flicked quickly with a finger, the coin falls straight into the glass. What does this situation show?

- A. The coin moves because the card pushes it
- B. The flick applies a force directly to the coin
- C. The coin and card both move away due to inertia
- D. The coin remains at rest due to inertia when the card moves away ✓

Q24 General Science

According to the sign convention, the height of an erect image formed by a mirror is taken as:

- A. Zero
- B. Positive ✓
- C. Negative
- D. Imaginary

Q25 General Science

Which of the following salts will form a solution with pH greater than 7 when dissolved in water?

- A. Sodium acetate ✓
- B. Ammonium chloride
- C. Copper sulphate
- D. Sodium chloride



General Science

25 Questions • Answer Key

Q1 General Science

A ball is thrown vertically upward with initial velocity (u). After time (t), its velocity (v) becomes _____.

A. $v = u - gt$ ✓

B. $v = u \cdot gtv$

C. $v = gt - uv$

D. $v = u + gt$

Q2 General Science

Which statement DOES NOT relate to the versatile nature of carbon?

A. It can have single, double, and triple bonds.

B. It has catenation.

C. It can bond ionically. ✓

D. It is tetravalent.

Q3 General Science

The pH of four different solutions are given in the options. Which of them will turn red litmus blue?

A. 4

B. 6

C. 2

D. 11 ✓

Q4 General Science

The crystalline lens of the eye mainly helps in:

A. Controlling the amount of light entering the eye

B. Detecting colour of objects

C. Providing fine adjustment of focal length ✓

D. Sending signals to the brain

Q5 General Science

According to Thomson's model of an atom, which of the following statements best describes the structure of the atom?

A. The atom consists of a dense nucleus surrounded by electrons.

B. Electrons are embedded in a positively charged sphere. ✓

C. The atom contains only neutrons and electrons.

D. Electrons revolve around a central nucleus in fixed orbits.

Q6 General Science

Which of the following is a safe sex method to help prevent the transmission of HIV (human immunodeficiency virus)?

A. Using condoms during sexual intercourse ✓

B. Taking antibiotics after sex

C. Taking multivitamins regularly

D. Sharing needles carefully

Q7 General Science

The angle between the incident ray and the emergent ray of a prism is called:

A. Angle of incidence

B. Angle of refraction

C. Angle of emergence

D. Angle of deviation ✓

Q8 General Science

Seed dispersal is important for plants because it:

A. prevents overcrowding and competition ✓

B. ensures seed death after fertilisation

C. prevents pollination

D. increases the size of seeds



Q9 General Science

Which of the following functions is NOT associated with Golgi Complex?

- A. It permits entries and exits of substances from the cell. ✓
- B. It modifies and packages proteins received from the endoplasmic reticulum.
- C. It forms lysosomes that help in intracellular digestion.
- D. It transports and secretes materials outside the cell.

Q10 General Science

What is the mass number of a neutral atom with 11 electrons, 11 protons and 12 neutrons?

- A. 12
- B. 11
- C. 23 ✓
- D. 22

Q11 General Science

Which of the following experimental observations provides the strongest evidence for the existence of particles in matter?

- A. Ice melts into water when heated
- B. A drop of ink spreads evenly in water without stirring ✓
- C. Salt dissolves faster in warm water than in cold water
- D. Water boils and produces steam

Q12 General Science

Which of the following industries uses sodium hydroxide for processing wood pulp?

- A. Food Industry
- B. Soap Industry
- C. Textile Industry
- D. Paper Industry ✓

Q13 General Science

Which of the following statements is correct?

- A. Sound travels faster in vacuum than in air.
- B. Sound can travel in vacuum because it is longitudinal.
- C. Sound requires a medium to travel and is longitudinal. ✓
- D. Sound waves are transverse and need a medium.

Q14 General Science

Which of the following statements best describes allotropes of carbon?

- A. They are different isotopes of carbon with varying numbers of neutrons.
- B. They are different structural forms of carbon with different physical properties but similar chemical properties. ✓
- C. They are compounds formed by carbon with different elements.
- D. They are isomers of carbon, having the same molecular formula but different structures.

Q15 General Science

Which of the following is/are true about the magnetic field lines around a bar magnet?

- (i) The relative strength of the magnetic field is shown by the degree of closeness of the field lines.
- (ii) No two magnetic field lines can intersect each other.

- A. Neither (i) nor (ii)
- B. Only (i)
- C. Both (i) and (ii) ✓
- D. Only (ii)

Q16 General Science

What is the purpose of cross-breeding exotic and local cattle breeds?

- A. To make the animals more aggressive
- B. To reduce food requirements
- C. To combine long lactation with disease resistance ✓
- D. To make animals smaller in size

Q17 General Science

Which of the following is a component of phloem tissue?

- A. Xylem fibres
- B. Sieve tubes ✓
- C. Vessels
- D. Tracheids



Q18 General Science

If a conductor has a resistance of $10\ \Omega$ and a potential difference of 5 V is applied across it, what is the current flowing through it?

- A. 2 A
- B. 5 A
- C. 0.2 A
- D. 0.5 A ✓

Q19 General Science

A car starts from rest and reaches a speed of 72 km/hr in 20 seconds. What is the acceleration of the car?

- A. 2 m/s^2
- B. 4 m/s^2
- C. 1 m/s^2 ✓
- D. 3 m/s^2

Q20 General Science

In animals, sensitivity or responsiveness is mainly controlled by the:

- A. nervous system ✓
- B. respiratory system
- C. digestive system
- D. circulatory system

Q21 General Science

The relationships of food chain, which can be shown as a series of branching lines is called:

- A. Spider web
- B. World wide web
- C. Trophic level
- D. Food web ✓

Q22 General Science

Where does fertilisation usually occur in the female reproductive system?

- A. Cervix
- B. Vagina
- C. Uterus
- D. Oviduct ✓

Q23 General Science

What is the role of nitrogen gas in chip packets?

- A. It prevents oxidation ✓
- B. It adds crispiness
- C. It adds flavour
- D. It absorbs moisture

Q24 General Science

A force (F) of 10 N is applied on a body, causing it to move 5 m in the direction of the force. The work done (W) is _____.

- A. 5 J
- B. 15 J
- C. 2 J
- D. 50 J ✓

Q25 General Science

Which of the following is NOT an example of action and reaction forces?

- A. When the bus stops suddenly, people fall forward ✓
- B. The swimmer pushes the water backward with her hands
- C. A rocket moving upward due to gases expelled downward
- D. Foot pushes the ground backward and ground pushes the foot forward



General Science

25 Questions • Answer Key

Q1 General Science

What is the primary function of epithelial tissue?

- A. Support
- B. Protection ✓
- C. Control
- D. Movement

Q2 General Science

Which of the following statements is true about mass?

- A. Mass and weight are exactly the same
- B. Mass depends on the location of the body
- C. Mass is a measure of the force acting on a body
- D. Mass is a measure of inertia of a body ✓

Q3 General Science

The anion formed by which of the following non-metals reacts with Ca^{2+} ion to form a stable ionic compound?

- A. Carbon
- B. Nitrogen
- C. Boron
- D. Oxygen ✓

Q4 General Science

In a concave mirror, a ray of light directed towards the principal focus after reflection:

- A. Diverges away from the axis
- B. Retraces its path
- C. Passes through the center of curvature
- D. Becomes parallel to the principal axis ✓

Q5 General Science

Select the correct example of a crystalline solid.

- A. Only sand
- B. Only salt
- C. All salt, sugar and sand
- D. Both sugar and salt ✓

Q6 General Science

Through the phenomenon of biological magnification, which of the following has the maximum concentration of pesticides in them?

- A. Grass
- B. Snake ✓
- C. Grasshopper
- D. Frog

Q7 General Science

$(\text{CH}_3)_3\text{C}-\text{CH}_3$ represents the structural formula of which of the following organic compounds?

- A. 3-methyl butane
- B. methyl butane
- C. 2,2-dimethyl propane ✓
- D. 2,3-dimethyl propane

Q8 General Science

If 0.2 A current flows through a wire when the potential difference across it is 2 V, what is the resistance of the wire?

- A. $0.1\ \Omega$
- B. $4\ \Omega$
- C. $1\ \Omega$
- D. $10\ \Omega$ ✓

Q9 General Science

Which of the following products is formed on complete combustion of hydrocarbons?

- A. Methane and hydrogen
- B. Methane and oxygen
- C. CO_2 and water ✓
- D. CO and water



Q10 General Science

Which of the following is a psychological change associated with sexual maturity?

- A. Development of brain
- B. Hair growth on skin
- C. Desire of independence and mood swings ✓
- D. Increased physical activity

Q11 General Science

The wavering of objects seen through a turbulent hot air stream is an example of:

- A. dispersion of light
- B. small-scale atmospheric refraction ✓
- C. internal reflection in air layers
- D. diffraction in air

Q12 General Science

Which of the following statements about oxidation and reduction are correct?

- I. A substance is said to be oxidised if it gains oxygen or loses hydrogen.
- II. A substance is reduced if it loses oxygen or gains hydrogen.
- III. In every redox reaction, both oxidation and reduction occur simultaneously.

- A. I and III only
- B. I and II only
- C. I, II, and III ✓
- D. II and III only

Q13 General Science

What happens to the inter-particle space when a solid melts into a liquid?

- A. It increases ✓
- B. It becomes zero
- C. It decreases
- D. It remains the same

Q14 General Science

Which of the following statements is/are correct?

- A) The formula unit mass of CaCl_2 is 111 u.
- B) The formula unit mass is calculated in the same manner as we calculate the molecular mass.
- C) The formula unit mass is calculated in a manner that is different to how we calculate the molecular mass.

- A. Only C
- B. Only B and C
- C. Only A and B ✓
- D. Only A

Q15 General Science

Which of the following is the fluid content inside the plasma membrane?

- A. Ribosomes
- B. Cell wall
- C. Nuclear membrane
- D. Cytoplasm ✓

Q16 General Science

Which of the following statements about nervous tissue is correct?

- A. Nervous tissue consists of neurons and is found in the brain, spinal cord and nerves ✓
- B. Nervous tissue is composed of epithelial cells that form protective layers.
- C. Nervous tissue is responsible for voluntary movement and is attached to bones.
- D. Nervous tissue is made up of muscle fibres responsible for movement.

Q17 General Science

Which of the following statements is correct about reproduction in plants?

- A. Spores are produced only during sexual reproduction.
- B. Spores can alone produce new offspring. ✓
- C. Gametes can alone produce new offspring.
- D. Spores need fusion with another spore to produce new offspring.



Q18 General Science

Which of the following does NOT involve oxidation reaction?

- A. Rusting of iron
- B. Burning of wood
- C. Dissolution of salt in water ✓
- D. Electrolysis of water

Q19 General Science

A compass needle placed near a current-carrying conductor shows deflection because:

- A. Current produces electric field
- B. Current produces sound
- C. Current produces heat
- D. Current produces magnetic field ✓

Q20 General Science

Which of the following is a T-shaped intra-uterine contraceptive device that offers long-term (multi-year) birth control?

- A. Birth control pill
- B. Male condom
- C. Copper-T ✓
- D. Diaphragm

Q21 General Science

If a constant force of 10 N moves an object 5 m in the same direction as the force, the work done is:

- A. 15 J
- B. 5 J
- C. 50 J ✓
- D. 2 J

Q22 General Science

Why is the gravitational force considered a weak force in everyday terrestrial interactions, such as between you and a friend sitting nearby?

- A. Because the mass of human objects is much greater than the Earth's mass.
- B. Because the distance between the objects is negligibly small.
- C. Because the force is only significant when large masses (like planets or celestial bodies) are involved. ✓
- D. Because the force is only experienced when the objects are in free fall.

Q23 General Science

What is the minimum time gap needed between the original sound and its echo for us to hear a clear echo?

- A. 10 seconds
- B. 0.1 seconds ✓
- C. 0.01 seconds
- D. 1 second

Q24 General Science

What happens when an unbalanced force acts on an object?

- A. The object remains at rest permanently
- B. There is a change in the object's speed or direction of motion ✓
- C. The object always moves in a circular path
- D. The object moves without any acceleration

Q25 General Science

Which of the following is an example of natural ecosystem?

- A. Fish aquarium
- B. Hydroponics
- C. Kitchen garden
- D. Forests ✓



General Science

25 Questions • Answer Key

Q1 General Science

If the direction of current in a conductor is reversed, the direction of force on it will:

- A. become zero
- B. reverse ✓
- C. remain the same
- D. double

Q2 General Science

If the speed of a wave is 300 m/s and its wavelength is 0.75 m, the frequency of the wave is _____.

- A. 300 Hz
- B. 75 Hz
- C. 225 Hz
- D. 400 Hz ✓

Q3 General Science

An electric bulb is rated 110 Watt – 220 Volt. The current drawn by the bulb is:

- A. 20 A
- B. 2 A
- C. 0.5 A ✓
- D. 24,200 A

Q4 General Science

Which statement correctly represents the location of the meristematic tissue in a plant body?

- A. At the tips of the leaves
- B. All over the plant body
- C. At some specific regions
- D. At the base of the stem ✓

Q5 General Science

The nature of the bond formed in aliphatic carbon compounds is:

- A. hydrogen
- B. covalent ✓
- C. ionic
- D. coordinate

Q6 General Science

Which of the following reproductive method will generate greater diversity in population?

- A. Binary fission
- B. Budding
- C. Sexual reproduction ✓
- D. Fragmentation

Q7 General Science

Which of the following expressions is representing the correct lens formula?

- A. $1/v - 1/u = 1/f$ ✓
- B. $1/v + 1/u = 1/f$
- C. $1/v + 1/u = f$
- D. $1/v - 1/u = f$

Q8 General Science

Which of the following observations could NOT be explained by Rutherford's model of the atom?

- A. The distribution of electrons around the nucleus
- B. The stability of the atom despite the presence of accelerating electrons ✓
- C. The presence of a positively charged nucleus in the atom
- D. The deflection of alpha particles at large angles

Q9 General Science

A 1000 kg car moving at 10 m/s is brought to rest by a constant braking force in 5 s. What is the magnitude of the force?

- A. 3000N
- B. 2500 N
- C. 1500 N
- D. 2000 N ✓



Q10 General Science

The gas released on the reaction of metal carbonate with hydrochloric acid turns lime water milky. The released gas is:

- A. Carbon dioxide** ✓
- B. Hydrogen
- C. Chlorine
- D. Carbon monoxide

Q11 General Science

A man lifts a stone of mass 22 kg through a vertical height of 4 m. Calculate the work done. (Take $g = 10 \text{ m/s}^2$)

- A. 55 J
- B. 220 J
- C. 400 J
- D. 880 J** ✓

Q12 General Science

Why is the plasma membrane called selectively permeable?

- A. It allows only certain substances to pass in or out.** ✓
- B. It dissolves unwanted materials.
- C. It blocks all substances from entering.
- D. It allows all substances to pass freely.

Q13 General Science

Read the given Assertion (A) and Reason (R) carefully and select the correct option.

(A): Mendel chose pea plants for his experiments because they were easy to grow and showed distinct contrasting traits.
(R): Pea plants reproduce asexually, allowing Mendel to control crosses easily.

- A. A is true, but R is false** ✓
- B. Both A and R are true, and R is the correct explanation of A
- C. A is false, but R is true
- D. Both A and R are true, but R is not the correct explanation of A

Q14 General Science

What is the IUPAC name for an organic compound with two carbon atoms and a hydroxyl ($-\text{OH}$) functional group?

- A. Methanal
- B. Ethanoic acid
- C. Propanone
- D. Ethanol** ✓

Q15 General Science

When an empty plastic bottle with an airtight stopper is pushed deeper into a bucket of water, the increasing upward force that resists the downward push is known as _____.

- A. surface tension
- B. buoyant force (or upthrust)** ✓
- C. gravitational force
- D. atmospheric pressure

Q16 General Science

Suspensions are different from solutions because:

- A. They are transparent
- B. They can be seen by naked eyes** ✓
- C. Their particles do not settle on standing
- D. Their solute is fully dissolved

Q17 General Science

A concave mirror forms an image at a distance of 20 cm when an object is placed 10 cm in front of it. What is the focal length of this mirror?

- A. 40 cm
- B. 20 cm** ✓
- C. 10 cm
- D. 30 cm

Q18 General Science

Which of the following is NOT a method of irrigation?

- A. Wells
- B. Check dams** ✓
- C. River lift systems
- D. Canals



Q19 General Science

Providing water to crops at optimal times during their growth cycle directly contributes to what outcome?

A. Higher expected yields



B. Delayed maturation

C. Increased vulnerability to pests

D. Decreased nutrient uptake

Q20 General Science

Why do we experience muscle cramps after heavy exercise?

A. Because blood flow completely stops during exercise

B. Due to a decrease in body temperature

C. Because muscles stop contracting

D. Due to accumulation of lactic acid

**Q21 General Science**

Which of the following statements are correct about molecular mass?

Statement 1: The molecular mass of a substance is the sum of the atomic masses of all the atoms in a molecule of the substance.

Statement 2: It is also known as the relative mass of a molecule.

Statement 3: It is expressed in atomic mass units (u).

A. Statements 1, 2 and 3 are correct.



B. Only Statements 1 and 3 are correct.

C. Only statements 1 and 2 are correct.

D. Only statements 2 and 3 are correct.

Q22 General Science

When dilute hydrochloric acid reacts with sodium hydrogencarbonate, which of the following observations is correct?

A. Formation of a salt and water only

B. Formation of brown fumes of nitrogen dioxide

C. Formation of hydrogen gas with a pop sound

D. Rapid evolution of a colourless gas that turns lime water milky

**Q23 General Science**

Which of the following methods is an example of asexual reproduction in plants?

A. Fertilisation

B. Germination

C. Pollination

D. Vegetative propagation

**Q24 General Science**

If an object moves from point A to point B (50 m east) and returns to point A in 10 seconds, its average velocity is:

A. 5 m/s

B. 10 m/s

C. 0 m/s



D. -10 m/s

Q25 General Science

Detergents can work in which of the following?

A. Only soft water

B. Only distilled water

C. Both hard and soft water



D. Only hot water



General Science

25 Questions • Answer Key

Q1 General Science

In which part of the female reproductive system is the egg fertilised by sperm?

- A. Ovary
- B. Uterus
- C. Fallopian tube
- D. Vagina



Q2 General Science

What happens in a longitudinal wave?

- A. Particles oscillate up and down about their mean position
- B. Particles stay completely still as the wave passes
- C. Particles oscillate back and forth about their position of rest
- D. Particles move in circles around their rest position



Q3 General Science

During the Chlor-Alkali process, which of the following products is NOT obtained directly from the electrolysis of brine?

- A. Sodium hydroxide solution
- B. Sodium metal deposited at the cathode
- C. Hydrogen gas at the cathode
- D. Chlorine gas at the anode



Q4 General Science

When touching a hot object with the hand, human beings are able to remove their hand immediately because:

- A. human beings are more intelligent than others
- B. every living organism can do so
- C. human beings are sensitive to the stimulus of touch
- D. human beings are the supreme creatures of the living world



Q5 General Science

A gun fires a bullet horizontally. Which of the following statements is correct?

- A. Recoil depends on gravity.
- B. The bullet exerts no force on the gun.
- C. The gun experiences a smaller backward force than the bullet's forward force.
- D. The gun experiences a backward force equal to the forward force on the bullet.



Q6 General Science

Two objects are being accelerated — one has a mass of 3 kg and is accelerated at 4 m/s^2 , and the other has a mass of 5 kg and is accelerated at 2 m/s^2 . Which one needs a greater force to move?

- A. The 3 kg object
- B. The 5 kg object
- C. Both require the same force
- D. It cannot be determined without knowing the distance



Q7 General Science

What type of bonding exists in most organic compounds?

- A. Covalent
- B. Metallic
- C. Coordinate
- D. Ionic



Q8 General Science

Why does growth in plants occur only at specific regions?

- A. Because meristematic tissues are located only in specific regions
- B. Because permanent tissues keep dividing throughout the plant
- C. Because all plant tissues can divide only once
- D. Because all plant cells stop growing after maturity



Q9 General Science

Now a days, which of the following petroleum products is used in place of coal-tar for metalling the roads?

- A. Coke
- B. Paraffin wax
- C. Naphthalene
- D. Bitumen

**Q10 General Science**

The method of extraction of a metal depends on its:

- A. Position in the reactivity series
- B. Atomic number
- C. Colour
- D. Mass number

**Q11 General Science**

White light is incident obliquely on a glass prism, which of the following statement(s) is/are true?

- (i) Red colour undergoes maximum deviation.
- (ii) The speed of violet colour is the least while travelling through the prism.
- (iii) The refractive index of violet is minimum.
- (iv) The refractive index of red is minimum.

- A. Both (ii) and (iv)
- B. Both (i) and (iii)
- C. Both (i) and (iv)
- D. Both (ii) and (iii)

**Q12 General Science**

Which of the following statements is correct about plant's response to environmental stimulus?

- A. Some plants can respond to the stimulus of touch.
- B. Plants have very weak muscles to respond environmental stimulus.
- C. Plants have special connective tissues to receive environmental stimulus.
- D. Plants have very fine nerves to receive environmental stimulus.

**Q13 General Science**

Which of the following is a common use of baking soda?

- A. Preventing bacterial decomposition
- B. Increasing acidity in soil beds
- C. Reacting with alcohol to make soap
- D. Neutralising excess stomach acid

**Q14 General Science**

Which of the following is an enzyme that is secreted in the stomach during the process of digestion?

- A. Trypsin
- B. Mucus
- C. Pepsin
- D. Amylase

**Q15 General Science**

A block exerts a thrust of 500 N on a surface of area 0.25 m². The pressure exerted by the block is _____.

- A. 125 N/m²
- B. 2000 N/m²
- C. 250 N/m²
- D. 500 N/m²

**Q16 General Science**

Which of the following statements is correct?

- A. Electrons have much smaller mass than protons and neutrons.
- B. The size of the nucleus is large as compared to the size of the atom.
- C. The electrons revolve around the nucleus in triangular paths.
- D. The electrons do not revolve around the nucleus in circular paths.

**Q17 General Science**

If you apply pressure to a gas, what happens to the intermolecular spaces and forces?

- A. Intermolecular spaces and forces both increase.
- B. Intermolecular spaces increase, intermolecular forces decrease.
- C. Intermolecular spaces decrease, intermolecular forces increase.
- D. Both intermolecular spaces and forces remain unchanged.

**Q18 General Science**

A car with a mass of 150 kg is moving at a speed of 36 km/hr. What is the amount of work required to increase its speed to 72 km/hr?

- A. 37,500 J
- B. 30,000 J
- C. 22,500 J
- D. 7500 J



Q19 General Science

A student cannot clearly see objects placed at a distance but can read a book comfortably. The defect in the eye is:

A. myopia



B. astigmatism

C. hypermetropia

D. presbyopia

Q20 General Science

Which of the following can be considered a reason for Mendel's success in formulating laws of inheritance?

A. He was a well-trained scientist.



B. He had supernatural power.

C. He had knowledge of mathematics.

D. He was a monk.

Q21 General Science

In the process of sexual reproduction in flowering plants, what is the primary role of the pistil?

A. Attracts pollinators with colorful petals

B. Produces pollen grains

C. Supports the flower with nutrients

D. Receives pollen and houses the ovules for fertilisation



Q22 General Science

Which statement is INCORRECT about a household electric circuit?

A. All appliances are connected in parallel.

B. Current through each appliance is the same.



C. A fuse protects the circuit from excessive current.

D. A fuse is always connected in the live wire.

Q23 General Science

Which non-metal exhibits a lustrous shine like metals?

A. Flourine

B. Iodine



C. Sulphur

D. Chlorine

Q24 General Science

Which rule helps determine the direction of the magnetic field inside a current-carrying loop?

A. Right-hand thumb rule



B. Left-hand thumb rule

C. Fleming's right-hand rule

D. Fleming's left-hand rule

Q25 General Science

Bohr's model is only applicable to:

A. lithium

B. hydrogen



C. helium

D. beryllium



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General Science

25 Questions • Answer Key

Q1 General Science

Which of the following non-metals is found liquid at room temperature?

- A. Phosphorous
- B. Iodine
- C. Bromine
- D. Nitrogen



Q2 General Science

What are the products formed when an acid reacts with a metal hydrogen carbonate?

- A. Salt + Water + Carbon dioxide
- B. Base + Hydrogen gas
- C. Salt + Oxygen + Carbon
- D. Salt + Hydrogen gas



Q3 General Science

Which of the following statements is NOT correct?

- A. Soft sound has small amplitude
- B. Loudness depends on amplitude
- C. Loudness depends on frequency
- D. Loud sound has large amplitude



Q4 General Science

The potential energy of a body depends on which of the following?

- A. Speed
- B. Mass only
- C. Both mass and height
- D. Height only



Q5 General Science

Which of the following metals is most likely to be found in the free state in nature due to its low reactivity?

- A. Iron
- B. Zinc
- C. Copper
- D. Gold



Q6 General Science

What is the primary advantage of cross-pollination over self-pollination?

- A. Does not depend on pollinating agents for producing progeny
- B. Produces progeny that is identical to parent
- C. Introduces genetic variations, which improves chances of survival in progeny
- D. Requires less energy input for generating the progeny



Q7 General Science

An object is thrown vertically upwards with velocity u . Under the influence of gravity, the acceleration:

- A. acts in the direction of motion
- B. acts opposite to the direction of motion
- C. becomes zero at the highest point
- D. increases the upward velocity



Q8 General Science

A cyclist performing uniform circular motion throws an apple in his direction, the apple moves in a _____.

- A. tangential path to the circular path at that point
- B. straight line path opposite to the cyclist
- C. circular path opposite to the cyclist
- D. circular path as the cyclist



Q9 General Science

At maturity, an organism breaks into smaller pieces, which grow into new individuals. What is this process called?

- A. Fragmentation
- B. Fusion
- C. Fission
- D. Budding



Q10 General Science

Which of the following statements correctly explains the continuous movement of particles of matter?

- A. Particles of matter are too heavy to move.
- B. Particles of matter are continuously moving due to their kinetic energy. ✓
- C. Particles of matter move only in gases and not in solids or liquids.
- D. Particles of matter are stationary unless force is applied.

Q11 General Science

What is molecular mass of carbon dioxide?

- A. 44 ✓
- B. 22
- C. 38
- D. 42

Q12 General Science

The generation of heat in a conductor due to electric current is known as:

- A. Joule's heating ✓
- B. Ohm's Law
- C. electrolysis
- D. electromagnetic induction

Q13 General Science

Which of the following is NOT present in animal cells?

- A. Cytoplasm
- B. Nucleus
- C. Plasma membrane
- D. Chloroplast ✓

Q14 General Science

According to Bohr's model of the atom, electrons in an atom:

- A. are embedded in a positively charged sphere like plums in a pudding
- B. revolve around the nucleus in elliptical orbits and emit energy continuously
- C. revolve in fixed circular orbits and do not radiate energy while in these orbits ✓
- D. are stationary in the atom and emit energy when struck by photons

Q15 General Science

A car driver uses a concave mirror as a shaving mirror at home. If his face is kept close to the mirror, how will the image formed be?

- A. Virtual, erect, and magnified ✓
- B. Real, inverted, and smaller than the face
- C. Virtual, erect, and diminished
- D. Real, inverted, and larger than the face

Q16 General Science

While cleaning the school campus, students are asked to separate biodegradable waste. Which of the following should be placed in the biodegradable bin?

- A. Wooden pencil shavings ✓
- B. Polythene bag
- C. Glass bottle
- D. A crushed cold drink can

Q17 General Science

Which of the following is secreted directly into the blood and carried to different parts of the body?

- A. Saliva
- B. Pancreatic juice
- C. Bile juice
- D. Adrenaline ✓

Q18 General Science

A train is moving along a straight track with a speed of 54 km/hr. It stops after traveling 150 m. The magnitude of its acceleration is:

- A. 1 m/s^2
- B. 0.75 m/s^2 ✓
- C. 2 m/s^2
- D. 1.5 m/s^2

Q19 General Science

Which of the following is the compound produced by the action of chlorine on dry slaked lime (Ca(OH)_2)?

- A. bleaching powder ✓
- B. common salt
- C. washing soda
- D. bleaching soda



Q20 General Science

Which of the following features is seen in every cell under a microscope?

- A. Mitochondria
- B. Cell membrane
- C. Chromosome
- D. Lysosome

**Q21 General Science**

Which of the following pairs of human male chromosome is mismatched in size?

- A. Twentieth pair autosomes
- B. First pair autosomes
- C. Sex chromosomes
- D. Thirteenth pair autosomes

**Q22 General Science**

Which of the following is the common name for ethanol (C_2H_5OH)?

- A. Ethyl alcohol
- B. Methyl alcohol
- C. Isopropyl alcohol
- D. Butyl alcohol

**Q23 General Science**

A light is travelling from a denser medium A to a rarer medium B. What will be the unit of refractive index of medium B with respect to medium A?

- A. (metre)⁻¹
- B. (metre)²
- C. No unit
- D. metre

**Q24 General Science**

When the current in a circuit is doubled, keeping resistance constant, the power dissipated in the resistor becomes:

- A. Double
- B. Four times
- C. Half
- D. One-fourth

**Q25 General Science**

Which substances are selectively reabsorbed in the nephron?

- A. Urea and carbon dioxide
- B. Platelets and enzymes
- C. Glucose, amino acids, and water
- D. Bile and hydrochloric acid



General Science

25 Questions • Answer Key

Q1 General Science

When light ray passes from a rarer medium to a denser medium, it _____.

A. bends towards the normal



B. bends away from the normal

C. bends at a 90° angle

D. does not bend at all

Q2 General Science

Which part in the neuron i.e. nervous tissue is responsible for protein synthesis?

A. Axon

B. Nissl granules



C. Synaptic bulb

D. Dendrites

Q3 General Science

Which mechanism leads to the folding of Mimosa pudica leaves when they are touched?

A. Change in pH of leaf cells

B. Change in the water content of leaf cells



C. Change in temperature of the leaves

D. Change in light intensity at leaf surface

Q4 General Science

In a purely resistive circuit, the electrical energy supplied by the battery is:

A. completely dissipated as heat



B. converted only into light

C. stored as potential energy

D. stored as magnetic energy

Q5 General Science

What does the atomic number of an element represent?

A. Number of protons in an atom



B. Number of neutrons in an atom

C. Total number of electrons and protons

D. Mass number of the atom

Q6 General Science

The molecular mass of HNO_3 is 63 atomic mass unit (u). What is atomic mass of oxygen (O)?

A. 8u

B. 32u

C. 48u

D. 16u



Q7 General Science

A particle starts from rest and moves with uniform acceleration. Which of the following represents the correct velocity-time graph for the particle?

A. A parabola

B. A straight line passing through the origin with positive slope



C. A horizontal line

D. A straight line passing through the origin with negative slope

Q8 General Science

Which of the following substances burn without a flame?

A. LPG

B. Wax

C. Charcoal



D. Petrol

Q9 General Science

Why does carbon form covalent bonds instead of ionic bonds?

A. Carbon has 8 valence electrons.

B. It has a very large atomic radius.

C. Carbon can easily gain or lose 4 electrons.

D. It is energetically unfavourable to lose or gain 4 electrons.



Q10 General Science

When the height of an object is doubled, its potential energy becomes:

A. double



B. triple

C. half

D. zero

Q11 General Science

Which of the following best describes the nutrition process in amoeba?

A. Ingestion → Egestion → Absorption → Digestion

B. Absorption → Ingestion → Digestion → Egestion

C. Diffusion → Ingestion → Digestion → Absorption

D. Ingestion → Digestion → Absorption → Egestion

**Q12 General Science**

Consider the following statements and select the correct option.

Statement 1: A fuse is connected in series in an electric circuit.

Statement 2: A fuse wire melts when the current exceeds a safe limit.

A. Only Statement 2 is correct.

B. Only Statement 1 is correct.

C. Both Statements 1 and 2 are correct.



D. Both Statements 1 and 2 are incorrect.

Q13 General Science

Mendel conducted his experiments on which plant?

A. Bean plant

B. Tomato

C. Pea plant



D. Sunflower

Q14 General Science

A common characteristic in all double displacement reaction is:

A. the reaction mixture is always colourless

B. only one product is formed

C. exchange of metal ions between two metal salts



D. the reaction requires heat to initiate

Q15 General Science

When calcium oxide reacts with water, the product formed is:

A. calcium sulphate

B. calcium chloride

C. calcium hydroxide



D. calcium carbonate

Q16 General Science

When an object falls freely near the Earth, the direction of its motion:

A. remains the same



B. becomes opposite to gravity

C. changes continuously

D. becomes horizontal

Q17 General Science

Which of the following is essential for the propagation of sound waves?

A. Light source

B. Medium



C. Vacuum

D. Magnet

Q18 General Science

The mode of cell division by which germ cells get half the amount of DNA as compared to non-reproductive cells is called ____.

A. Amitosis

B. Meiosis



C. Budding

D. Mitosis

Q19 General Science

Which metal is placed just above copper in the reactivity series?

A. Aluminium

B. Lead



C. Iron

D. Zinc



Q20 General Science

When particles of two different types of matter randomly mix due to the inherent random movement of particles, the process is called:

- A. effusion
- B. intermixing
- C. homogenisation
- D. diffusion ✓

Q21 General Science

What type of image is formed by a concave mirror when the object is placed at infinity?

- A. Highly enlarged and virtual
- B. Same size as the object and real
- C. Enlarged, virtual and upright
- D. Highly diminished, real and inverted ✓

Q22 General Science

Which of the following cell organelles help(s) in cellular reproduction?

- A. Plastids
- B. Endoplasmic Reticulum
- C. Lysosomes
- D. Nucleus ✓

Q25 General Science

An object with a mass of 10.0 kg is initially moving at a velocity of 3.0 m/s . A constant force of 30.0 N is applied in the opposite direction of its motion for 5.0 s. What is the final velocity of the object?

- A. $+18.0 \text{ m/s}$
- B. $+12.0 \text{ m/s}$
- C. -12.0 m/s ✓
- D. 0 m/s

Q23 General Science

Plastic waste has increased a lot in a city over the last 10 years. Which habit of people is most likely causing this?

- A. Plastic bags have been banned.
- B. People are using more disposable items instead of long-lasting ones. ✓
- C. More people are using buses and trains.
- D. People are choosing reusable things.

Q24 General Science

Which of the following statements correctly describes the process of budding in organisms like Hydra?

- A. A bud forms as an outgrowth due to repeated cell division and detaches when mature. ✓
- B. A bud forms from specialised cells inside the organism and remains attached for life.
- C. A bud forms from a broken body part and grows into a new organism.
- D. A bud forms only during sexual reproduction and fuses with the parent organism.



General Science

25 Questions • Answer Key

Q1 General Science

A convex lens is thicker at the middle compared to the edges. Due to this shape, how does it affect parallel light rays passing through it?

- A. It causes the rays to reflect back along the same path
- B. It causes the rays to meet at a point, performing a converging action ✓
- C. It causes the rays to spread out, performing a diverging action
- D. It causes the rays to scatter randomly

Q2 General Science

The key difference between rough endoplasmic reticulum and smooth endoplasmic reticulum is the presence of:

- A. ribosomes ✓
- B. cytosol
- C. centrosomes
- D. mitochondria

Q3 General Science

If the net force on a 10 kg object is zero, its acceleration will be:

- A. Depends on its velocity
- B. 9.8 m/s^2
- C. 0 m/s^2 ✓
- D. 10 m/s^2

Q4 General Science

Which of the following cell organelles stores starch, oil and protein granules?

- A. Chromoplast
- B. All plastids
- C. Leucoplast ✓
- D. Chloroplast

Q5 General Science

Which of the following shows the strongest force of attraction between particles?

- A. Water
- B. Iron rod ✓
- C. Alcohol
- D. Oxygen gas

Q6 General Science

If the mass of two objects is halved and the distance between them is also halved, the gravitational force

- A. becomes double
- B. becomes half as much
- C. becomes one-fourth as much
- D. remains same as before ✓

Q7 General Science

Which of the following terms is used to describe the ability of a plant to recover its lost parts by growth?

- A. Regeneration ✓
- B. Budding
- C. Fertilisation
- D. Binary fission

Q8 General Science

Which of the following elements has atomic number 11?

- A. Sodium ✓
- B. Potassium
- C. Nitrogen
- D. Magnesium

Q9 General Science

Which of the following statements about ethanol is correct?

- A. Ethanol reacts with sodium to form carbon dioxide.
- B. Ethanol is a liquid with a pleasant smell and is miscible with water. ✓
- C. Ethanol is a non-volatile solid.
- D. Ethanol does not dissolve in water.



Q10 General Science

What does the area under a velocity-time graph give?

- A. Force
- B. Acceleration
- C. Displacement ✓
- D. Work done

Q11 General Science

The poultry birds grown for the purpose of meat production are called _____.

- A. Fowls
- B. Broilers. ✓
- C. Layers.
- D. Cocks.

Q12 General Science

Which of the following is NOT a trait Mendel studied in pea plants?

- A. Seed shape
- B. Leaf size ✓
- C. Plant height
- D. Flower position

Q13 General Science

The number of neutrons in an oxygen atom is:

- A. 7
- B. 8 ✓
- C. 16
- D. 32

Q14 General Science

When ester is treated with sodium hydroxide, alcohol and sodium salt of carboxylic acid is formed. What is the process called?

- A. Hydrogenation
- B. Esterification
- C. Acidification
- D. Saponification ✓

Q15 General Science

The speed of sound in air is about 343 m/s at room temperature. What happens to its speed when it travels through water?

- A. It becomes zero
- B. It increases ✓
- C. It remains the same
- D. It decreases

Q16 General Science

A ray of light passing through the principal focus of a convex lens emerges:

- A. parallel to the principal axis ✓
- B. without deviation
- C. towards the optical centre
- D. back to the source

Q17 General Science

Which of the following characteristics correctly describes skeletal (striated) muscles?

- A. Short, cylindrical, branched cells with intercalated discs
- B. Spindle-shaped, uninucleate cells, involuntary control
- C. Branched, uninucleate cells, involuntary control
- D. Long, cylindrical, unbranched, multinucleate cells, voluntary control ✓

Q18 General Science

Which of the following wires will have the least resistance if all are made of the same material?

- A. Short and thin wire
- B. Long and thin wire
- C. Long and thick wire
- D. Short and thick wire ✓

Q19 General Science

Why do recessive traits like 't' for dwarfness in pea plants only show up when both alleles are recessive?

- A. Dominant alleles mask recessive alleles. ✓
- B. Recessive alleles are stronger.
- C. Recessive alleles cannot be passed on.
- D. Recessive alleles are never expressed.



Q20 General Science

Which of the following is the irrigation method in which water is tap from deeper strata by pumps?

- A. Canals
- B. Tube wells
- C. River life system
- D. Rain-fed

Q21 General Science

If a porter carrying a load on his head moves on a horizontal road with uniform speed, the work done by the gravitational force on the load:

- A. is zero
- B. is minimum
- C. is maximum
- D. cannot be determined

Q22 General Science

Read the following statements carefully and select the correct option.

Assertion (A): Decomposition reactions require energy in the form of heat, light, or electricity.

Reason (R): Energy is absorbed to break down reactant molecules into simpler products.

- A. Both A and R are true, and R is the correct explanation of A.
- B. A is false, but R is true.
- C. A is true, but R is false.
- D. Both A and R are true, and R is not the correct explanation of A.

Q23 General Science

The phenomenon of change of a liquid into vapour at any temperature below its boiling point is called:

- A. evaporation
- B. sublimation
- C. solidification
- D. condensation

Q24 General Science

When the same current flows through two wires of equal length but different resistances, the wire with higher resistance will:

- A. Produce less heat
- B. Produce more heat
- C. Produce no heat
- D. Produce the same heat

Q25 General Science

An organic compound always contains which of the following?

- A. Silicon and phosphorus atoms
- B. At least one carbon atom
- C. Halogens and noble gases
- D. Hydrogen, oxygen and nitrogen



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following devices does NOT use the heating effect of current for its working?

- A. Electric Iron
- B. Electric Geyser
- C. Electric Mixer Grinder
- D. Electric Fuse

Q2 General Science

Which component of phloem is basically responsible for the translocation of food?

- A. Sieve elements
- B. Phloem fibres
- C. Companion cells
- D. Phloem parenchyma

Q3 General Science

What is required to describe the distance an object has travelled?

- A. Only the direction of motion
- B. Only the numerical value, which is its magnitude
- C. The starting and ending points only
- D. Both magnitude and direction

Q4 General Science

What is the range of the pH scale?

- A. 0 to 14
- B. 0 to 10
- C. -1 to 14
- D. 0 to 7

Q5 General Science

The image formed by a convex mirror is always _____.

- A. real and inverted
- B. virtual and inverted
- C. virtual and erect
- D. real and erect

Q6 General Science

Which of the following is NOT a consequence of the law of conservation of energy?

- A. Energy can be created to increase total energy of a closed system
- B. Kinetic energy can convert into potential energy
- C. Total energy in a closed system remains constant
- D. Energy can be converted from one form to another

Q7 General Science

Which cell organelle is responsible for releasing energy in the form of ATP, which enables various metabolic functions in an animal cell?

- A. Lysosome
- B. Nucleus
- C. Endoplasmic reticulum
- D. Mitochondria

Q8 General Science

Which of the following particles contribute to the mass number?

- A. Protons only
- B. Electrons only
- C. Electrons and Protons
- D. Protons and Neutrons

Q9 General Science

Leucoplasts have which of the following colours?

- A. Orange
- B. Indigo
- C. Purple
- D. White

Q10 General Science

What is corrosion most commonly observed as?

- A. Rust formation on iron objects
- B. Melting of metal when heated
- C. Boiling of water in a kettle
- D. Glowing of a bulb



Q11 General Science

The main purpose of the earth wire in a domestic circuit is:

A. to protect from electric shocks



B. to reduce resistance

C. to supply current

D. to increase voltage

Q12 General Science

A body of mass 5 kg is moving with an acceleration of 2 m/s². What is the force acting on it?

A. 10 N



B. 7 N

C. 2 N

D. 5 N

Q13 General Science

What is the correct definition of atomic mass?

A. It is the mass of one atom in kilograms.

B. It is the mass of an atom in grams.

C. It is the mass relative to carbon-12 atom.



D. It is the mass of one hydrogen molecule.

Q14 General Science

Which of the following conditions will most effectively accelerate the corrosion of iron?

A. Iron immersed in pure water, free of dissolved oxygen

B. Iron surface in dry air with no impurities

C. Iron coated with a thin layer of zinc (galvanization)

D. Iron surface exposed to moist air containing dissolved salts

**Q15 General Science**

What is the advantage of fragmentation as a mode of reproduction in plants?

A. Forms spores for dispersal

B. Increases genetic diversity

C. Promotes bud formation

D. Brings about rapid multiplication

**Q16 General Science**

A student places an object at a distance greater than twice the focal length from a convex lens. What kind of image is formed?

A. Virtual, erect, and smaller than the object

B. Real, inverted, and larger than the object

C. Virtual, erect, and larger than the object

D. Real, inverted, and smaller than the object

**Q17 General Science**

Hormone named testosterone is secreted from which of the following parts of a human being?

A. Fallopian tube

B. Testis



C. Uterus

D. Ureter

Q18 General Science

A sound of 100 Hz is compared with a sound of 500 Hz. Which of the following statements is correct?

A. 500 Hz sound has a higher pitch.



B. 100 Hz sound has a higher pitch.

C. Both have the same pitch.

D. Pitch cannot be compared.

Q19 General Science

A village that regularly suffers from drought wants to store water for dry seasons to irrigate the agricultural field. Which method will help most?

A. Rainwater harvesting and watershed management



B. Spraying pesticides

C. Growing short-duration crops

D. Sprinkler irrigation

Q20 General Science

Which property of a carbon atom enables one carbon atom to form bonds with other carbon atoms?

A. Isomerisation

B. Valency

C. Catenation



D. Polymerisation



Q21 General Science

A 96 kg astronaut is standing on Earth. What is his weight on the Moon? (g on earth = 10 m/s^2)

- A. 96 N
- B. 960 N
- C. 160 N
- D. 16 N

**Q22 General Science**

Which of the following hydrocarbons is saturated?

- A. Butene
- B. Butane
- C. Propene
- D. Benzene

**Q23 General Science**

What is 'suspension' in chemistry?

- A. A heterogeneous mixture with large particles
- B. A true solution
- C. A colloidal dispersion
- D. A homogeneous mixture

**Q24 General Science**

How does the *Mimosa pudica* (touch-me-not) plant transmit the touch stimulus from the point of contact to the motor cells responsible for movement?

- A. Through specialised nerve tissues connecting the points
- B. Through electrical and chemical signals passed between general plant cells
- C. By releasing hormones that travel through specialised tubes
- D. Through growth of new supportive cells at the touch site

**Q25 General Science**

The importance of genetic variation in organisms is that _____.

- A. it enables sexual reproduction
- B. it leads to uniformity in the progeny
- C. it increases the chances of survival of an organism
- D. it gives rise to dominant and recessive traits



General Science

25 Questions • Answer Key

Q1 General Science

What is the process known for removing impurities from ores?

- A. Refining
- B. Smelting
- C. Concentration
- D. Roasting

Q2 General Science

What causes the acceleration of an object when it falls toward the Earth?

- A. Friction
- B. Magnetic force
- C. Air resistance
- D. Earth's gravitational force

Q3 General Science

Which plant tissue is mostly found in the husk of a coconut, and what is its main function?

- A. Collenchyma – providing flexibility
- B. Parenchyma – storage of food
- C. Sclerenchyma – providing strength and rigidity
- D. Xylem – conducting water and minerals

Q4 General Science

The plasma membrane is composed of _____.

- A. proteins and sugars
- B. DNA and lipids
- C. lipids and proteins
- D. sugars and lipids

Q5 General Science

Which of the following contraceptive devices/methods prevent(s) spreading of STDs (Sexually Transmitted Diseases) such as AIDS?

- A. Vasectomy/Tubectomy
- B. Copper T
- C. Condoms
- D. Oral Pills

Q6 General Science

The lens formula is given by:

- A. $f = v + u$
- B. $1/f = 1/v - 1/u$
- C. $f = uv$
- D. $1/f = u/v$

Q7 General Science

What happens when you dissolve sugar in water?

- A. Sugar reacts with water
- B. Particles of sugar settle at the bottom
- C. Sugar particles occupy spaces between water particles
- D. Water evaporates

Q8 General Science

Substances that are broken down by biological processes are said to be:

- A. biodegradable
- B. synthetic
- C. metallic
- D. non-biodegradable

Q9 General Science

Ohm's Law is valid under which condition?

- A. For all materials at any temperature
- B. Only for insulator at high temperatures
- C. Only for metallic conductors at constant temperature
- D. Only for semiconductors

Q10 General Science

Which of the following is true for solids?

- a. Definite shape
- b. Rigidity fixed
- c. Volume

- A. a, b and c
- B. b and c only
- C. a and c only
- D. a and b only



Q11 General Science

Calcium hydroxide reacts slowly with the carbon dioxide in air to form a thin layer of which compound that could be used for the purpose of whitewashing?

- A. $\text{Ca}(\text{HCO}_3)_2$
- B. CaCO_3 ✓
- C. CaO
- D. CaSO_4

Q12 General Science

Which of the following is NOT an example of action-reaction pair?

- A. Force of engine on car and car moves forward ✓
- B. Swimmer pushes water backward and water pushes swimmer forward
- C. Bat exerts force on ball and ball exerts force on bat
- D. Gun recoils backward and bullet moves forward

Q13 General Science

What happens right after the formation and maturation of seeds in flowering plants?

- A. Seed dispersal ✓
- B. Pollination
- C. Seed germination
- D. Fertilisation

Q14 General Science

An electric bulb draws a current of 0.15 A for 8 minutes. How much electric charge flows through the circuit during this time?

- A. 1.2 C
- B. 720 C
- C. 72 A
- D. 72 C ✓

Q15 General Science

The absolute refractive index of a medium is defined as:

- A. the ratio of speed of light in medium to that in air
- B. the ratio of speed of light in vacuum to that in medium ✓
- C. the ratio of speed of light in medium to that in vacuum
- D. the ratio of speed of light in one medium to that in another medium

Q16 General Science

A ball of mass 3 kg is raised to a height of 6 m. Its potential energy is _____.

Take $g = 10 \text{ m/s}^2$

- A. 20 J
- B. 200 J
- C. 180 J ✓
- D. 1.8 J

Q17 General Science

Identify the way that is NOT used by insect pests to attack the plants.

- A. By boring into stem and fruits
- B. By sucking the cell sap
- C. By cutting the root, stem and leaf
- D. By creeping on stem ✓

Q18 General Science

Carbon can form long chains because it exhibits _____ and shows _____.

- A. trivalent; catenation
- B. tetravalency; catenation ✓
- C. double bond; triple bond
- D. electronegativity; tetravalency

Q19 General Science

In a balanced chemical equation, the total number of atoms of each element is:

- A. Equal on both sides ✓
- B. Always changing
- C. More on the product side
- D. More on the reactant side

Q20 General Science

Which statement best describes the forces involved when a bird flaps its wings downward to fly upward?

- A. The bird pushes the air downward, but no equal and opposite force acts on it.
- B. The flapping of wings is the action, and the gravity pulling the bird down is the reaction.
- C. The bird's weight acts as the action force, and the air provides the reaction force.
- D. The downward push of the wings on the air is the action, and the lift produced by the air on the wings is the reaction. ✓



Q21 General Science

The _____ is the longest cell in the human body.

- A. osteocyte
- B. platelet
- C. muscle fibre
- D. neuron

**Q22 General Science**

In flowering plants, the fusion of the male and female gametes within the ovule is called _____.

- A. germination
- B. fertilisation
- C. pollination
- D. transpiration

**Q23 General Science**

If a student adds water to a concentrated acid quickly, what is likely to happen?

- A. Nothing will happen.
- B. The acid will solidify.
- C. The solution will become cold.
- D. The solution may splash and cause burns.

**Q24 General Science**

The approximate radii of hydrogen atom is:

- A. 10–10 m
- B. 10–7 m
- C. 10–9 m
- D. 10–8 m

**Q25 General Science**

1/T

- A. λ
- B. v
- C. v
- D. A



General Science

25 Questions • Answer Key

Q1 General Science

What type of bond is formed when a metal reacts with a non-metal?

A. Ionic bond



B. Hydrogen bond

C. Covalent bond

D. Metallic bond

Q2 General Science

When resistors are connected in series, which quantity remains the same across all resistors?

A. Current



B. Resistance

C. Voltage

D. Power

Q3 General Science

A student says, "Plants don't have a nervous system, so they cannot respond to anything." What would be the correct scientific response?

A. The student is right; plants are non-living.

B. Plants respond using hormonal and electrical-chemical signals.



C. Only animals can show responses.

D. Plants use nerves like animals do.

Q4 General Science

Why does ice float on the surface of water?

A. Because the density of ice is less than that of water



B. Because the weight of ice is very small

C. Because ice is at a lower temperature

D. Because it displaces water equal to its weight

Q5 General Science

Which of the following is NOT a cell organelle?

A. Endoplasmic Reticulum

B. Cytoplasm



C. Mitochondria

D. Golgi Apparatus

Q6 General Science

Which of the following is the correct sequence of events in flowering plant reproduction?

A. Embryo → Seedling → Pollination → Fertilisation

B. Fertilisation → Pollination → Embryo → Seedling

C. Pollination → Fertilisation → Seedling → Embryo

D. Pollination → Fertilisation → Embryo → Seedling



Q7 General Science

Which of the following statements best differentiates a compound from a solution?

A. A compound can be separated by physical methods, while a solution cannot.

B. Compounds are mixtures of two or more elements, while solutions are mixtures of compounds only.

C. A compound has a fixed composition and definite properties, unlike a solution.



D. Compounds are always liquid, but solutions can be in any state.

Q8 General Science

Which of the following has branched-chain hydrocarbons?

A. Ethane

B. Isobutane



C. Butane

D. Propane

Q9 General Science

Which of the following statements is INCORRECT regarding cell type and shape?

A. The white blood cell (WBC) has a round and fixed shape.



B. The muscle cell is spindle-shaped.

C. The red blood cell (RBC) is disc-shaped with a central depression.

D. The nerve cell is long and branched in shape.



Q10 General Science

Why do isobars, despite having the same mass number, exhibit different chemical properties?

- A. Because they have the same number of neutrons in their nuclei
- B. Because they have the same number of protons
- C. Because their atomic numbers and electronic configurations differ ✓
- D. Because they belong to the same group in the periodic table

Q11 General Science

Which one of the following statements is TRUE about vasectomy?

- A. It blocks the vas deferens to prevent sperm release. ✓
- B. It removes the seminal vesicles.
- C. It stops testosterone production.
- D. It kills the sperm cells reaching the uterus.

Q12 General Science

A body of mass 5 kg is initially at rest. A constant force of 20 N acts on it for 4 s. What is the final velocity of the body?

- A. 20 m/s
- B. 12 m/s
- C. 8 m/s
- D. 16 m/s ✓

Q13 General Science

Which wave characteristic determines the loudness of a sound?

- A. Wavelength
- B. Pitch
- C. Amplitude ✓
- D. Frequency

Q14 General Science

Which type of cells are used by organisms like hydra for reproduction in the process budding?

- A. Photosynthetic cells
- B. Gametic cells
- C. Regenerative cells ✓
- D. Stomatal cells

Q15 General Science

Tooth enamel starts corroding when the pH in the mouth falls below ____.

- A. 5.5 ✓
- B. 4.5
- C. 6.5
- D. 7.5

Q16 General Science

During the transformation of energy from one form to another, such as gravitational potential energy converting into kinetic energy during free fall, ____.

- A. new energy is constantly created, balancing the loss of the original form
- B. the total energy before and after the transformation remains the same ✓
- C. the total mechanical energy increases, adhering to the law
- D. energy is gradually lost to the environment, violating the law

Q17 General Science

The basic modification with a "prefix" or "suffix" in the nomenclature is the indicator of:

- A. Nature of the surface area
- B. Nature of the melting point
- C. Nature of the boiling point
- D. Nature of the functional Group ✓

Q18 General Science

In a circuit diagram, the symbol for a cell is represented by which of the following?

- A. A circle with a cross inside
- B. Two equal lines parallel to each other
- C. A rectangle with a diagonal line
- D. One long and one short line parallel to each other ✓

Q19 General Science

Which metal will displace iron from iron sulfate solution?

- A. Silver
- B. Zinc ✓
- C. Copper
- D. Chromium



Q20 General Science

The size of the image formed by a convex mirror _____.

- A. is always larger than the object
- B. is always equal to the object
- C. can be larger or smaller depending on object position
- D. is always smaller than the object ✓

Q21 General Science

Which of the following types of human muscles show alternate light and dark bands when stained appropriately?

- A. Skeletal muscles ✓
- B. Muscles of the alimentary canal
- C. Involuntary muscles
- D. Visceral muscles

Q22 General Science

What is the SI unit of Pressure?

- A. Pascal ✓
- B. mmHg
- C. Torr
- D. Atmosphere

Q23 General Science

In a school garden, butterflies often visit flowers while squirrels feed on nuts. What types of consumers are these organisms?

- A. Butterflies – herbivores, Squirrels – herbivores ✓
- B. Butterflies – carnivores, Squirrels – omnivores
- C. Butterflies – parasites, Squirrels – decomposers
- D. Butterflies – omnivores, Squirrels – carnivores

Q24 General Science

A student complains of difficulty in reading the blackboard clearly while sitting at the back of the class, but can read a book at 25 cm without difficulty. Which statement is correct for his condition?

- A. He has presbyopia and needs bifocals
- B. He has cataract and needs surgery
- C. He has hypermetropia and needs a convex lens
- D. He has myopia and needs a concave lens ✓

Q25 General Science

Which of the following is the correct reason for why fruits fall from the tree when the branches of the tree are shaken vigorously?

- A. The fruits fall down due to change in momentum.
- B. The fruits fall down due to inertia. ✓
- C. The fruits fall down due to frictional force.
- D. The fruits fall down due to action reaction forces.



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following methods of asexual reproduction allows a new organism to develop from a cut or broken body part?

- A. Spore formation
- B. Binary fission
- C. Fragmentation ✓
- D. Budding

Q2 General Science

Which of the following is true about the universal gravitational constant G ?

- A. It is a universal constant, same everywhere. ✓
- B. It varies from place to place on Earth.
- C. It depends on the medium between two masses.
- D. It is equal to the acceleration due to gravity.

Q3 General Science

Which of the following is true for suspension?

- a. Suspension is a heterogeneous mixture.
- b. The particles of a suspension scatter a beam of light passing through it.
- c. The particles of a suspension can be seen by the naked eye.

- A. Only a
- B. Only a and b
- C. a, b and c ✓
- D. Only a and c

Q4 General Science

Which of the following bond is made up of a large number of organic compounds?

- A. Ionic bond
- B. Metallic bond
- C. Covalent bond ✓
- D. Dipolar bond

Q5 General Science

Read the given statements as select the most appropriate option.

Statements:

A: Small bulb like projection from yeast cell is bud.

B: Chain of bud formation is found in the budding process of yeast.

- A. Both Statement A and Statement B are correct ✓
- B. Statement B is correct and Statement A is incorrect
- C. Both Statement A and Statement B are incorrect
- D. Statement A is correct and Statement B is incorrect

Q6 General Science

A sound wave has a frequency of 250 Hz. The time taken for one complete vibration is:

- A. 0.40 s
- B. 4.0 s
- C. 0.25 s
- D. 0.004 s ✓

Q7 General Science

Which of the following statements about meristematic tissues is INCORRECT?

- A. Meristematic cells are dead at maturity. ✓
- B. Cells are small, thin-walled, and densely cytoplasmic with large nuclei.
- C. Enable lifelong growth in plants.
- D. Meristematic tissues consist of actively dividing cells.

Q8 General Science

Washing soda is added to water during washing clothes?

- A. To make hard water soft. ✓
- B. To prevent clothes getting wrinkles.
- C. To add fragrance to clothes.
- D. To bleach clothes.



Q9 General Science

The direction of the magnetic field at the centre of a current-carrying circular loop can be determined by:

- A. Left-hand thumb rule
- B. Right-hand palm rule
- C. Fleming's left-hand rule
- D. Right-hand rule (curling fingers along current) ✓

Q10 General Science

What is the network of tiny tubular structures found in the cytoplasm of eukaryotic cells called?

- A. Mitochondria
- B. Golgi apparatus
- C. Endoplasmic reticulum ✓
- D. Lysosome

Q11 General Science

A concave mirror can form a real and inverted image when the object is placed:

- A. Between focus and pole
- B. At the focus
- C. Very close to the mirror
- D. Beyond the centre of curvature ✓

Q12 General Science

When a gun is fired, why does the gun experience a recoil even though the bullet moves forward?

- A. Because the bullet exerts an equal and opposite force on the gun ✓
- B. Because the bullet's acceleration is less than the gun's
- C. Because the gun's mass is smaller than the bullet's
- D. Because the gun pushes the bullet forward with less force

Q13 General Science

Which of the following characteristics of connective tissue is INCORRECT?

- A. Blood is a type of connective tissue.
- B. Matrix may be jelly-like, fluid, dense or rigid.
- C. Cells are embedded in an intercellular matrix.
- D. Cells are tightly arranged. ✓

Q14 General Science

Which of the following explains a precipitation reaction?

- A. A reaction where heat is released
- B. A reaction in which a gas is formed
- C. A reaction where an insoluble solid is formed ✓
- D. A reaction involving a color change only

Q15 General Science

Which of the following types of animal husbandry helps us in honey production?

- A. Culture fishery
- B. Cattle farming
- C. Bee-keeping ✓
- D. Poultry

Q16 General Science

When you sit on a chair, the chair exerts an upward force on you. The reaction force in this case is:

- A. Force of air on the chair
- B. Your weight acting downward on the chair ✓
- C. Friction between your clothes and the chair
- D. Gravitational pull of the Earth

Q17 General Science

Which of the following is NOT necessary for work to be done on a body?

- A. The force must have a component along the direction of displacement.
- B. The body must get displaced.
- C. A force must be applied on the body.
- D. The body must move at a constant speed. ✓

Q18 General Science

The equivalent resistance in a parallel combination is:

- A. greater than the largest resistance
- B. equal to the largest resistance
- C. the sum of all resistances
- D. smaller than the smallest resistance ✓



Q19 General Science

Which one of the following is NOT an agent of cross pollination?

A. Light



B. Water

C. Wind

D. Animals

Q20 General Science

What happens to a light ray when it passes through the optical centre of a lens?

A. It will emerge without any deviation



B. It passes through the principal focus on the other side of the lens

C. It will emerge parallel to the principal axis

D. It bends toward the principal axis

Q21 General Science

A school organises a 'Zero Waste' day. Which of the following practices will best support this initiative?

A. Serving food in banana leaves or reusable plates



B. Disposing food waste in regular trash bins

C. Using single-use plastic cutlery

D. Wrapping snacks in plastic foil

Q22 General Science

The smell of hot food reaches a distance because:

A. temperature increases food weight

B. sound waves carry the food smell

C. particles are continuously moving



D. light energy spreads aroma particles

Q23 General Science

Which of the following is a property of suspension?

A. Particles do not settle

B. Particles cannot be seen by naked eyes.

C. Solute particles cannot be separated by the process of filtration

D. Suspension is a heterogeneous mixture

**Q24 General Science**

Which of the following elements shows +2 valency?

A. Lithium

B. Beryllium



C. Hydrogen

D. Helium

Q25 General Science

What is the chemical formula of Plaster of Paris?

A. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

B. CaCO_3

C. $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$



D. CaSO_4



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General Science

25 Questions • Answer Key

Q1 General Science

Which of the following statements about the Archimede's Principle is correct?

- A. When a body is immersed fully or partially in a fluid, it experiences an upward force that is much less than the weight of the fluid displaced by it.
- B. When a body is immersed fully or partially in a fluid, it experiences a downward force that is equal to the weight of the fluid displaced by it.
- C. When a body is immersed fully or partially in a fluid, it experiences an upward force that is equal to the weight of the fluid displaced by it. ✓
- D. When a body is immersed fully or partially in a fluid, it experiences a downward force that is much less than the weight of the fluid displaced by it.

Q2 General Science

What are the unwanted impurities such as soil and sand present in an ore called?

- A. Alloy
- B. Flux
- C. Slag
- D. Gangue ✓

Q3 General Science

Consider the following statements and select the correct option.

Statement A: Salts of strong acids and strong bases are neutral with pH 7.
Statement B: Sodium chloride is an example of a neutral salt.

- A. Statement A is correct but B is incorrect.
- B. Statement A is incorrect but B is correct.
- C. Both statements A and B are incorrect.
- D. Both statements A and B are correct. ✓

Q4 General Science

If resistors are connected in series, the total or equivalent resistance is _____.

- A. Reciprocal of sum of reciprocals
- B. Product of individual resistances
- C. Sum of individual resistances ✓
- D. Always less than any single resistor

Q5 General Science

Which of the following statements is correct about the force?

- A. Force is a scalar quantity measured in Joule.
- B. Force is a vector quantity measured in Joule.
- C. Force is a vector quantity measured in Newton. ✓
- D. Force is a scalar quantity measured in Newton.

Q6 General Science

Which of the following tissues have contractile proteins that contract and relax to cause movement?

- A. Squamous epithelium tissue
- B. Muscular tissue ✓
- C. Nervous tissue
- D. Cuboidal epithelium tissue

Q7 General Science

Which of the following statements correctly defines the principal axis of a spherical mirror?

- A. The line passing through the focus and object
- B. The tangent at the pole
- C. The perpendicular line drawn from the pole
- D. The line passing through the centre of curvature and pole ✓

Q8 General Science

What is an ion in chemistry?

- A. An atom with only neutrons
- B. A radioactive stable particle
- C. A neutral molecule of atom
- D. A charged atom or molecule ✓

Q9 General Science

The calculated formula unit mass of Na_2SO_4 is:

- A. 140 u
- B. 146 u
- C. 142 u ✓
- D. 148 u



Q10 General Science

The frequency of a sound wave is 250 Hz. What is its time period?

- A. 25 s
- B. 40 s
- C. 0.004 s
- D. 0.25 s

Q11 General Science

Which of the following substances is NOT an example of biodegradable substance?

- A. Plastic bags
- B. Spoilt food
- C. Vegetable peels
- D. Waste paper

Q12 General Science

Washing soda is prepared by heating which compound?

- A. Sodium bicarbonate (baking soda)
- B. Calcium carbonate
- C. Sodium chloride
- D. Calcium oxide

Q13 General Science

Which of the following observations from Rutherford's alpha-particle scattering experiment led to the conclusion that most of the atom's volume is empty?

- A. Most of the alpha particles passed straight through the gold foil.
- B. A few alpha particles were deflected by 180°.
- C. Some alpha particles were deflected by small angles.
- D. Alpha particles were attracted towards electrons in the atom.

Q14 General Science

Which of the following substances have a high chance of contributing to the phenomenon of biological magnification?

- A. Pesticide
- B. Neem bark
- C. Rose petals
- D. Orange peel

Q15 General Science

Which of the following statements about complex permanent tissue is correct?

- A. Complex tissues are made of identical cells performing different functions.
- B. Complex tissues consist of loosely packed parenchyma cells for storage.
- C. Complex tissues are only found in animals for transporting oxygen.
- D. Xylem and phloem are complex tissues that help in conduction and form vascular bundles.

Q16 General Science

Which of the following statements is true?

- A. More work done in less time means more power.
- B. Work done does not affect power.
- C. Power decreases when work increases.
- D. Power and work are independent of each other.

Q17 General Science

In sexually reproducing organisms, how many versions of each trait does a child inherit?

- A. One version in total
- B. One version from each parent
- C. One version from father only
- D. Two versions from the mother only

Q18 General Science

What type of solution causes water to move out of a cell through the plasma membrane, making the cell shrink?

- A. Dilute solution
- B. Hypertonic solution
- C. Hypotonic solution
- D. Isotonic solution

Q19 General Science

Why the manufacturers of chips flush chips bags with nitrogen before packing?

- A. Nitrogen prevents rancidity.
- B. Nitrogen acts as preservative.
- C. Nitrogen acts as taste enhancer.
- D. Nitrogen prevents reduction of oil.



Q20 General Science

Propanone belongs to which homologous series?

- A. Ketone ✓
- B. Alcohol
- C. Ester
- D. Aldehyde

Q21 General Science

The angle between the incident ray and the emergent ray from a prism is called _____.

- A. Angle of prism
- B. Angle of incidence
- C. Critical angle
- D. Angle of deviation ✓

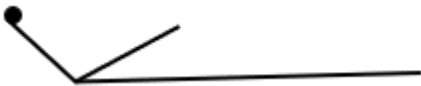
Q22 General Science

Which of the following is an advantage of vegetative propagation?

- A. All new plants are genetically different from the parent.
- B. It requires cross-pollination to occur.
- C. It allows propagation of seedless plants such as banana. ✓
- D. Plants grown this way take longer to bear fruits.

Q25 General Science

A smooth ball is resting on an ideal frictionless plane inclined on both sides. The ball is released from the left and the angle of right plane inclination is small in Case-I and zero in Case-II (flat). The ball travels _____ compared to the equally inclined case.



- A. farther distance in Case-I and moves forever in Case-II ✓
- B. equal distance in Case-I and moves forever in Case-II
- C. equal distance in Case-I and farther distance in Case-II
- D. small distance in Case-I and equal distance in Case-II

Q23 General Science

Three resistors of $4\ \Omega$, $8\ \Omega$, and $12\ \Omega$ are connected in series across a 12 V battery. The current in the circuit is:

- A. 1 A
- B. 4 A
- C. 2 A
- D. 0.5 A ✓

Q24 General Science

In which of the following groups of organisms sex determination occurs due to environmental temperature?

- A. All birds
- B. Few reptiles ✓
- C. Human beings
- D. All fishes



General Science

25 Questions • Answer Key

Q1 General Science

From the given alternatives, which method of asexual reproduction involves the formation of a new plant from the broken portion of the parent plant?

A. Fragmentation



B. Binary fission

C. Fertilisation

D. Spore formation

Q2 General Science

Which statement best describes a homologous series of organic compounds?

A. A series of compounds having the same general formula, similar chemical properties, and consecutive members differing by a $-\text{CH}_2-$ group

B. A series of elements with similar physical properties

C. A series of compounds that all have branched chains

D. A series of compounds with different functional groups but the same molecular formula

Q3 General Science

Which of the following is a molecule of a compound?

A. H_2O B. O_2 C. H_2 D. N_2

Q4 General Science

Which of the following products is formed when carbon dioxide reacts with calcium hydroxide (lime water)?

A. Calcium oxide

B. Sodium carbonate

C. Calcium bicarbonate

D. Calcium carbonate



Q5 General Science

In human female, when egg is not fertilised, which of the following process takes place?

A. Zygote formation

B. Menstruation



C. Parturition

D. Embryo development

Q6 General Science

Two wires, A and B, of the same material, have the same length, but the cross-sectional area of wire A is twice that of wire B. The ratio of their resistances $R_A : R_B$ is:

A. 1 : 1

B. 1 : 2



C. 4 : 1

D. 2 : 1

Q7 General Science

Which of the following statements is NOT true according to the sign convention for spherical lenses?

A. The focal length of a concave lens is negative.

B. Object distance is negative.

C. The focal length of a convex lens is positive.

D. Object height is negative when the object is placed above the principal axis.



Q8 General Science

A particle's velocity-time graph is a straight line with a negative slope. What does this indicate about the particle's motion?

A. The particle is slowing down if moving in the positive direction.



B. The particle is moving with increasing acceleration.

C. The particle is at rest.

D. The particle is speeding up in the positive direction.



Q9 General Science

Which of the following reactions demonstrates the acidic nature of ethanoic acid?

- A. Ethanoic acid + Sodium hydroxide → Sodium ethanoate + Water ✓
- B. Ethanoic acid + Sodium → Sodium ethanoate + Hydrogen gas
- C. Ethanoic acid + Methanol → Methanoic acid + Ethane
- D. Ethanoic acid + Ethanol → Ester + Water

Q10 General Science

A farmer lives near a river, but the canal system in his area receives an irregular water supply from the reservoir. What should he ideally adopt for irrigation?

- A. Use of sprinklers only
- B. Flood irrigation
- C. Wells
- D. River lift system ✓

Q11 General Science

What happens if one drop of acid rain water is put on blue litmus paper?

- A. Blue litmus paper will turn red. ✓
- B. Blue litmus paper will turn yellow.
- C. No colour changes in litmus paper.
- D. Blue litmus paper will turn black.

Q12 General Science

A student connects a voltmeter across the terminals of a glowing bulb. What does the voltmeter measure?

- A. Potential difference across the bulb ✓
- B. Resistance of the bulb
- C. Current through the bulb
- D. Heat produced by the bulb

Q13 General Science

What are the main components of a neuron?

- A. Dendrites, cell body, axon and nerve endings
- B. Dendrites, cell body and axon ✓
- C. Dendrites, cell body and nerve endings
- D. Cell body, dendrites, nerve endings and synapse

Q14 General Science

What type of epithelial tissue is the outer skin made of?

- A. Cuboidal epithelium
- B. Columnar epithelium
- C. Stratified squamous epithelium ✓
- D. Simple squamous epithelium

Q15 General Science

According to Newton's second law of motion, what happens when an unbalanced force is applied to an object?

- A. The object's momentum remains unchanged
- B. The object comes to rest immediately
- C. The object's momentum changes in the direction of the applied force ✓
- D. The object moves in a circular path

Q16 General Science

A particle has zero kinetic energy. What can be concluded about the particle's motion?

- A. It is moving with uniform velocity
- B. It must be at rest ✓
- C. It is moving with high acceleration
- D. Its momentum is maximum

Q17 General Science

The expression for acceleration due to gravity on the surface of a planet of mass M and radius R is:

- A. $g = GM^2/R$
- B. $g = R/GM^2$
- C. $g = GR/M^2$
- D. $g = GM/R^2$ ✓

Q18 General Science

Which of the following statements is NOT correct regarding the nucleus?

- A. Nuclear membrane is a double-layered structure.
- B. Nucleus contains chromosomes.
- C. Nucleus plays a central role in cellular reproduction.
- D. Nuclear membrane is a non-porous and rigid structure. ✓



Q19 General Science

What is the type of reproduction beginning from the fusion of male and female gametes called?

- A. Binary fission
- B. Cloning
- C. Budding
- D. Sexual reproduction ✓

Q20 General Science

The distributions of electrons in the K, L, and M shell of the chlorine atom are:

- A. 2, 6, 5
- B. 2, 7, 7
- C. 2, 7, 8
- D. 2, 8, 7 ✓

Q21 General Science

Which of the following human activities contributes to ozone layer depletion?

- A. Conserving water
- B. Composting organic waste
- C. Using solar energy
- D. Using CFC-based refrigerants and spray cans ✓

Q22 General Science

The speed of sound (v) is calculated by multiplying which two wave properties?

- A. Wavelength and Frequency ✓
- B. Wavelength and Amplitude
- C. Amplitude and Time Period
- D. Amplitude and Frequency

Q23 General Science

Where is the centre of curvature of a convex mirror located?

- A. At the principal focus of the mirror
- B. At the pole of the mirror
- C. In front of the mirror
- D. Behind the mirror ✓

Q24 General Science

Select the correct statement from the following.

- A) The large spaces between gas particles allow them to be easily squeezed into smaller volumes.
- B) Gas particles have a high average kinetic energy.

- A. Neither A nor B
- B. Both A and B ✓
- C. Only A
- D. Only B

Q25 General Science

The formula unit mass of a substance is the sum of the atomic masses of all atoms in a formula unit of a/an:

- A. atom
- B. element
- C. compound ✓
- D. mixture



General Science

25 Questions • Answer Key

Q1 General Science

A 2 kg body accelerates at 3 m/s^2 . The force acting on it is:

A. 5 N

B. 6 N ✓

C. 2 N

D. 3 N

Q2 General Science

Which of the following statements about sexual reproduction is INCORRECT?

A. It combines DNA from two parents.

B. It helps organisms adapt to changing environments.

C. It generates variations for species survival.

D. It produces identical clones. ✓

Q3 General Science

Which of the following is correct about force on a current-carrying conductor in a magnetic field?

A. The force on a conductor is along the magnetic field direction.

B. The force depends on the resistance of the conductor.

C. The force on a current carrying conductor is proportional to the length of the conductor in the magnetic field. ✓

D. The force is independent of the current in the conductor.

Q4 General Science

The weight of an object is less on the Moon than on the Earth because:

A. the Moon has smaller acceleration due to gravity than the Earth ✓

B. the Moon attracts objects with more force

C. the object becomes lighter due to air resistance

D. the mass of the object decreases on the Moon

Q5 General Science

Which gland secretes the growth hormone (GH) in humans?

A. Thyroid gland

B. Pituitary gland ✓

C. Pancreas

D. Adrenal gland

Q6 General Science

A rifle fires a light bullet, resulting in a large forward acceleration of the bullet and a minimal backward recoil acceleration of the rifle. If the forces are equal and opposite (Action/Reaction), why is the rifle's acceleration so much smaller than the bullet's?

A. The acceleration is inversely proportional to the mass, and the rifle has a much greater mass than the bullet. ✓

B. Action and reaction forces cancel out since they act instantaneously.

C. The action force of the rifle on the bullet is greater than the reaction force of the bullet on the rifle.

D. The reaction force of the bullet acts for a shorter duration than the action force.

Q7 General Science

Which of the following will NOT produce an echo?

A. A wall at 10 m distance ✓

B. A mountain at 50 m distance

C. A tall building at 30 m distance

D. A cliff at 100 m distance

Q8 General Science

If an image is formed at the same distance behind a mirror as the object in front, the mirror must be:

A. convex

B. concave

C. plane ✓

D. parabolic



Q9 General Science

Rutherford's gold foil experiment led to a major revision of the atomic model. Which of the following observations and conclusions is most accurate according to the experiment?

- A. Alpha particles are deflected because they collide with electrons and spread uniformly throughout the atom.
- B. The nucleus is positively charged and occupies most of the volume of the atom.
- C. The majority of alpha particles passed through the foil undeflected, indicating that atoms are mostly empty space. ✓
- D. Electrons are present in the nucleus and account for the atom's mass.

Q10 General Science

In a multicellular organism, how does each cell support the survival of the organism?

- A. By following division of labour ✓
- B. By converting itself into a complete organ
- C. By trying to carry out all life functions by itself
- D. By working independently without interacting with other cells

Q11 General Science

Why are the testes located outside the abdominal cavity in human males?

- A. Because sperm formation requires higher temperature
- B. Because testosterone is produced only outside the body
- C. Because sperm formation requires a lower temperature than body temperature ✓
- D. To protect them from physical damage

Q12 General Science

What does the reactivity series of metals represent?

- A. A list of metals arranged in increasing order of their density.
- B. A list of metals arranged in decreasing order of their reactivity. ✓
- C. A list of non-metals arranged by their ability to form ions.
- D. A list of metals arranged in increasing order of their melting points.

Q13 General Science

Which of the following is NOT formed in the chlor-alkali process?

- A. Sodium hydroxide
- B. Hydrogen gas
- C. Chlorine gas
- D. Sodium carbonate ✓

Q14 General Science

In which carbon allotrope are atoms arranged in a hexagonal layer structure, with weak forces between layers?

- A. Fullerene
- B. Graphite ✓
- C. Coke
- D. Diamond

Q15 General Science

Which of the following is the correct formula for kinetic energy of a body of mass 'm' kg moving with a uniform speed of 'v' m/s?

- A. $\frac{1}{2} mv^2$ ✓
- B. $\frac{1}{4} mv^2$
- C. $\frac{1}{2} mv$
- D. mv

Q16 General Science

Which of the following is a common characteristic of both acids and bases when dissolved in water?

- A. Both produce carbon dioxide when reacted with metal carbonates.
- B. Both produce ions that conduct electricity in aqueous solutions. ✓
- C. Both turn blue litmus red.
- D. Both release hydrogen gas on reacting with metals like zinc.

Q17 General Science

Which of the following decomposes on heating to give quick lime?

- A. CaCO_3 ✓
- B. KClO_3
- C. CaCl_2
- D. NaOH



Q18 General Science

When sugar is dissolved in water, the particles of sugar:

- A. break into smaller pieces only
- B. disappear permanently
- C. get into the spaces between water particles ✓
- D. occupy more space

Q19 General Science

Which of the following is NOT correct regarding sexual reproduction in plant?

- A. Transfer of pollen from one flower to another is achieved by different agents.
- B. Female germ-cells are present in the ovary.
- C. Pollen grain directly travels in the ovary. ✓
- D. Pollen needs to be transferred from the stamen to the stigma.

Q20 General Science

Which scientist suggested that a magnet exerts an equal and opposite force on a current-carrying conductor?

- A. Ampere ✓
- B. Oersted
- C. Maxwell
- D. Faraday

Q21 General Science

Which of the following chemical secretions helps our body in control and coordination?

- A. Hormones ✓
- B. Sebum
- C. Saliva
- D. Gastric mucosa

Q22 General Science

Which of the following may lead to biological magnification?

- A. Pesticides ✓
- B. Straw
- C. Peel of banana
- D. Degrading vegetables

Q23 General Science

Conditions to liquefy gases would be:

- A. decreasing pressure and decreasing temperature
- B. increasing pressure and decreasing temperature ✓
- C. decreasing pressure and increasing temperature
- D. increasing pressure and increasing temperature

Q24 General Science

In the case of a convex mirror, a ray parallel to the principal axis after reflection appears to diverge from:

- A. The principal focus ✓
- B. The centre of curvature
- C. Infinity
- D. The pole

Q25 General Science

Match the following connective tissues with their correct features.

a. Areolar tissue	i. fills spaces between organs
b. Skeletal tissues	ii. provide structural support and reduce friction.
c. Ligaments	iii. fibrous tissues that maintain muscle-to-bone
d. Tendons	iv. fibrous tissues that maintain bone-to-bone connection

- A. a i, b iv, c ii, d iii
- B. a iv, b i, c iii, d ii
- C. a i, b iv, c iii, d ii
- D. a i, b ii, c iv, d iii ✓



General Science

25 Questions • Answer Key

Q1 General Science

What happens when insects suck the sap from leaves of crop plants?

- A. Plant produces more flowers
- B. Plant gets pollinated
- C. Plant health is affected ✓
- D. Plant grows stronger

Q2 General Science

Which of the following is NOT due to refraction of light?

- A. Image formation by a convex mirror ✓
- B. Twinkling of stars
- C. Image formation by a convex lens
- D. Delayed Sunset

Q3 General Science

Every section of a current-carrying circular wire contributes to the magnetic field at the centre of the loop in _____.

- A. the opposite direction
- B. the same direction ✓
- C. a random direction
- D. the perpendicular direction

Q4 General Science

Which of the following human female body part prepares itself every month to receive a fertilised egg?

- A. Uterus ✓
- B. Pharynx
- C. Pancreas
- D. Kidney

Q5 General Science

A molecule of ozone has:

- A. 1 oxygen atom
- B. 2 oxygen atoms
- C. 3 oxygen atoms ✓
- D. 4 oxygen atoms

Q6 General Science

Which of the following parts of a plant has the dividing tissue region which helps in growth?

- A. Sieve tube
- B. Vessels
- C. Apical meristem ✓
- D. Sclerenchyma

Q7 General Science

What is the valency of oxygen in H_2O ?

- A. 1
- B. 3
- C. 2 ✓
- D. 0

Q8 General Science

Three rays of light parallel and close to the principal axis are incident on a convex lens, these rays will converge at which point after passing through the lens?

- A. At the optical centre
- B. At any point beyond the focus
- C. At the focus of the lens ✓
- D. At any point between the optical centre and the focus

Q9 General Science

By how many degrees Celsius is the temperature of the scrotum lower than the normal body temperature?

- A. About $12^{\circ}C$
- B. About $3^{\circ}C$ ✓
- C. About $7^{\circ}C$
- D. About $6^{\circ}C$

Q10 General Science

Which primary feature allows mitochondria to be called the 'powerhouse of the cell'?

- A. They synthesise energy as ATP ✓
- B. They store calcium ions
- C. They control protein synthesis
- D. They contain digestive enzymes



Q11 General Science

Which of the following is a correct use of baking soda (sodium hydrogen carbonate) in daily life?

- A. It is used in fire extinguishers to produce foam** ✓
- B. It is used to make soaps non-greasy
- C. It is used to prepare edible salts
- D. It is used to neutralise strong acids in lead-acid batteries

Q12 General Science

Which of the following has a variable composition?

- A. Methane
- B. Hydrogen chloride
- C. Brass** ✓
- D. Water

Q13 General Science

What physical quantity is obtained by multiplying the velocity of an object by the time it travels, assuming the object moves with a uniform velocity?

- A. Acceleration
- B. Displacement** ✓
- C. Force
- D. Momentum

Q14 General Science

A car travels at 62 km/hr for 2.5 hours and then at 48 km/hr for 1.5 hours. Its average speed is approximately _____.

- A. 55 km/hr
- B. 58 km/hr
- C. 27.5 km/hr
- D. 56.8 km/hr** ✓

Q15 General Science

Which of the following statements about baking soda (sodium hydrogen carbonate) is NOT correct?

- A. It is prepared industrially by reacting sodium chloride, ammonia, carbon dioxide, and water.
- B. On heating, baking soda releases carbon dioxide gas, which makes it useful in baking.
- C. Baking soda is used in antacids because it neutralises excess stomach acid, producing salt and water only.

A. Both A and B

B. Only C ✓

C. Only A

D. Both A and C

Q16 General Science

The diffusion of water through a selectively permeable membrane is known as _____.

A. osmosis ✓

B. transpiration

C. diffusion

D. active transport

Q17 General Science

In industries, how are ultrasonic waves primarily used to ensure the structural integrity of metallic components such as machine parts and bridges?

A. To polish the surface of the metal

B. To detect cracks and flaws inside the block ✓

C. To change the density of the metal

D. To heat the metal to remove impurities

Q18 General Science

If the kinetic energy of a moving body is 450 J and its velocity is 15 m/s, the mass of the body is _____.

A. 2 kg

B. 5 kg

C. 3 kg

D. 4 kg ✓



Q19 General Science

When ethanol reacts with ethanoic acid in the presence of conc H_2SO_4 it produces _____.

- A. ketone
- B. esters ✓
- C. alcohol
- D. aldehyde

Q20 General Science

Which of the following is chosen as a standard reference for determining atomic masses?

- A. Nitrogen-15
- B. Carbon-13
- C. Carbon-12 ✓
- D. Nitrogen-14

Q21 General Science

Which of the following is an organic compound?

- A. CaCO_3
- B. Na_2CO_3
- C. NaCl
- D. C_2H_6 ✓

Q22 General Science

In fish production, which of the following comes under the category of shellfish?

- A. Molluscs ✓
- B. Tuna
- C. Bombay duck
- D. Silver carp

Q23 General Science

What is the name of the semiconservative process in which DNA duplicates into two identical molecules?

- A. Mutation
- B. Translation
- C. Transcription
- D. Replication ✓

Q24 General Science

Which of the following statements is NOT correct?

- A. Gravitational force is always attractive
- B. Gravitational force is strongest among small bodies ✓
- C. The value of G is constant everywhere
- D. Every object attracts every other object in the universe

Q25 General Science

Which of the following statements is correct?

- A. Magnetic field lines start from the south pole and end at the north pole outside the magnet.
- B. The direction of magnetic field around a straight current-carrying conductor can be given by the right-hand thumb rule. ✓
- C. Magnetic field lines are always straight lines.
- D. Magnetic field is zero at the surface of a current-carrying wire.



General Science

25 Questions • Answer Key

Q1 General Science

A resistor of $4\ \Omega$ produces 64 J of heat every second. What is the potential difference across it?

A. 16 V



B. 16 A

C. 64 A

D. 8 V

Q2 General Science

A light ray passes through the centre of curvature of a convex mirror. What happens to it after reflection?

A. It retraces its own path.



B. It becomes parallel to the principal axis.

C. It gets absorbed.

D. It converges at the focus.

Q3 General Science

What is the atomic mass of magnesium oxide?

A. 35

B. 45

C. 32

D. 40



Q4 General Science

In which of the following media is the speed of sound the highest?

A. Air at room temperature

B. Water

C. Vacuum

D. Iron



Q5 General Science

Which of the following objects will sink in water? (Take the density of water as 1g/cm^3)

(i) An iron nail of density 2.5g/cm^3

(ii) A iron block of density 0.83g/cm^3

(iii) A iron ball of density 2g/cm^3

A. Only (ii)

B. Both (i) and (iii)



C. Only (iii)

D. Both (i) and (ii)

Q6 General Science

What is the atomic mass of oxygen?

A. 8 u

B. 12 u

C. 18 u

D. 16 u



Q7 General Science

Select the correct property of micelles in soap that help them to interact with water:

A. hydrophobic tail

B. hydrophilic head



C. hydrocarbon

D. both hydrophilic head and hydrophobic tail

Q8 General Science

Which of the following non-metals exhibits a metallic lustre despite being chemically non-metallic?

A. Phosphorus

B. Nitrogen

C. Sulphur

D. Iodine



Q9 General Science

Which of the following correctly describes an ion?

- A. A molecule that has gained or lost neutrons
- B. An atom with more protons than neutrons
- C. An atom or group of atoms with a net electric charge ✓
- D. A neutral molecule formed by ionic bonding

Q10 General Science

What is the longevity period of egg in the fallopian tube in case of failure of fertilisation in human females?

- A. 3-4 days
- B. 1-2 days ✓
- C. 4-5 days
- D. 6-7 days

Q11 General Science

What should be the position of the object, if a concave mirror forms a virtual, erect and enlarged image of the object?

- A. The object is placed at the centre of curvature of the mirror.
- B. The object is placed between the focus and the centre of curvature.
- C. The object is placed at the focus of the mirror.
- D. The object is placed between the pole and the focus of the mirror. ✓

Q12 General Science

Which of the following statements is true according to the First Law of Motion?

- A. A car accelerates when the engine is started.
- B. A stone falling freely under gravity.
- C. A rocket launching upward.
- D. A person continues to move forward when a car stops suddenly. ✓

Q13 General Science

Which of the following statements about vacuoles is INCORRECT?

- A. Vacuoles in plant cells are filled with cell sap, which helps provide turgidity and rigidity.
- B. Plant cells usually have a large central vacuole.
- C. Vacuoles are responsible for protein synthesis in the cell. ✓
- D. Vacuoles store important substances such as amino acids, sugars, organic acids and proteins.

Q14 General Science

Which of the following statements is true about modern fish farming?

- A. Enzymes are used to help fish grow bigger
- B. Fish farming cannot be done in ponds
- C. Hormones are used for fish breeding ✓
- D. All fish seeds are collected from rivers

Q15 General Science

Which of the following statements is correct regarding the mitochondria in a plant cell?

- A. The mitochondrial inner membrane is deeply folded. ✓
- B. Mitochondria performs photosynthesis.
- C. Mitochondria has a single membranous covering.
- D. Mitochondria does not have its own DNA.

Q16 General Science

What is the minimum approximate work required to bring a car of mass 1500 kg moving at a velocity of 60 km/hr to rest?

- A. 6.25×10^5 J
- B. 2.08×10^5 J ✓
- C. 1.56×10^5 J
- D. 4.68×10^5 J

Q17 General Science

Which of the following facilitates the communication between the central nervous system and the other parts of the body?

- A. Peripheral nervous system ✓
- B. Voluntary muscles
- C. Involuntary muscles.
- D. Spinal cord

Q18 General Science

Flushing of which gas is usually preferred in order to prevent the rancidity of the packaged food items?

- A. Dinitrogen trioxide
- B. Nitrogen dioxide
- C. Nitrogen ✓
- D. Nitric oxide



Q19 General Science

What do we call the motion of an object that travels equal distances in equal intervals of time, even when the time intervals are very small?

- A. Non-uniform motion
- B. Accelerated motion
- C. Uniform motion
- D. Circular motion



Q20 General Science

The extraction of metals from their ores is known as which of the following?

- A. Mining
- B. Smelting
- C. Metallurgy
- D. Refining



Q21 General Science

A mother who is malnourished during pregnancy is likely to:

- A. have a faster delivery
- B. produce more milk
- C. give birth to an underweight baby
- D. have a stronger immune system



Q22 General Science

Which of the following tissues makes the plant hard and stiff?

- A. Chlorenchyma
- B. Sclerenchyma
- C. Aerenchyma
- D. Collenchyma



Q23 General Science

Which of the following plants is unisexual?

- A. Mustard
- B. China rose
- C. Pea
- D. Papaya



Q24 General Science

Why is it impossible for two magnetic field lines to cross each other at a single point?

- A. Because they repel each other due to like polarity
- B. Because it would imply the compass needle could point in two directions simultaneously
- C. Because the magnetic field strength would be zero at that point
- D. Because they are always parallel inside the magnet



Q25 General Science

A yellow luminous flame is usually an indication of which of the following?

- A. Formation of carbon dioxide
- B. Incomplete combustion with unburnt carbon particles
- C. Complete combustion
- D. Combustion of metals



General Science

25 Questions • Answer Key

Q1 General Science

A boy is running in a circular track of radius 10 m. He completes one circle in 1 minute. What is his average speed?

- A. 10.4 m/s
- B. 0 m/s
- C. 1.04 m/s
- D. 5.2 m/s

Q2 General Science

The absolute refractive index of a medium is defined as the ratio of _____.

- A. speed of light in vacuum to speed of light in medium
- B. speed of light in water to speed of light in medium
- C. speed of light in medium to speed of light in vacuum
- D. speed of light in glass to speed of light in water

Q3 General Science

A voltmeter is always connected in a circuit:

- A. in series
- B. in diagonal
- C. in parallel
- D. in place of a switch

Q4 General Science

Which of the following best describes the key feature of the velocity–time graph for an object moving with uniform velocity?

- A. It is a straight line parallel to the velocity axis.
- B. It is a curved line.
- C. It is a straight line parallel to the time axis.
- D. It is a straight line inclined to the time axis.

Q5 General Science

The ability of gases to be compressed easily is due to:

- A. strong forces between particles
- B. lack of particles
- C. high mass of particles
- D. large spaces between particles

Q6 General Science

When light enters a glass prism from air at the first refracting surface, the light ray _____.

- A. Bends towards the normal, as it enters a denser medium
- B. Bends away from the normal, increasing the angle of incidence
- C. Undergoes total internal reflection.
- D. Passes straight through without bending

Q7 General Science

The formula for acceleration due to gravity (g) at the surface of the Earth is _____.

- A. $g = GM/R^2$
- B. $g = R^2/GM$
- C. $g = G/MR^2$
- D. $g = GM/R$

Q8 General Science

If a man of mass 75 kg climbs an 8 m staircase in 25 s, taking $g = 10 \text{ m/s}^2$, his average power is _____.

- A. 120 W
- B. 24 W
- C. 150 W
- D. 240 W

Q9 General Science

According to Joule's law of heating, the heat produced (H) is directly proportional to which of the following?

- A. The square of the time (t^2)
- B. The square of the resistance (R^2)
- C. The current (I)
- D. The square of the current (I^2)

Q10 General Science

Isobars are atoms having the same:

- A. mass number, different elements
- B. atomic number and mass
- C. number of electrons only
- D. number of neutrons only



Q11 General Science

Why do we need to conserve coal and petroleum?

- A. They are unlimited resources.
- B. They are non-renewable sources of energy. ✓
- C. They are renewable sources of energy.
- D. They are formed every day in factories.

Q12 General Science

How many atoms are there in a molecule of water?

- A. 2
- B. 1
- C. 3 ✓
- D. 4

Q13 General Science

Which of the following statements is INCORRECT regarding the shape and function of different cell types?

- A. White blood cells can change shape to move through tissues.
- B. Red blood cells are biconcave to increase oxygen-carrying capacity.
- C. Muscle cells are flat and circular to help them flow in blood. ✓
- D. Nerve cells are long and branched to carry messages across the body.

Q14 General Science

What is the meaning of 'Different parts of the human body perform different functions'?

- A. All cells perform same function
- B. Presence of division of labour ✓
- C. Absence of division of labour
- D. Different cells perform same function

Q15 General Science

Which of the following cell organelles is filled with digestive enzymes and helps to keep the cell clean by digesting any foreign material as well as worn out cell organelles?

- A. Ribosome
- B. Chromoplast
- C. Chloroplast
- D. Lysosomes ✓

Q16 General Science

What is the electronic configuration of oxygen (Atomic number = 8)?

- A. 4, 4
- B. 2, 6 ✓
- C. 2, 4, 6
- D. 2, 8

Q17 General Science

A government scheme promotes the rearing of fish in artificially controlled freshwater ponds. What is this type of fishing called?

- A. Capture fishing
- B. Culture fishing ✓
- C. Marine fishing
- D. Saltwater fishing

Q18 General Science

Why are ultrasounds preferred for cleaning objects with complex shapes?

- A. Their high frequency dislodges dirt particles ✓
- B. They produce magnetic effect
- C. They increase temperature of solution
- D. They have very high speed in liquids

Q19 General Science

Which of the following methods is NOT used for the ore enrichment?

- A. Dredging ✓
- B. Hydraulic washing
- C. Leaching
- D. Froth floatation

Q20 General Science

Small changes in DNA copies during reproduction are important because they _____.

- A. always cause harmful effects
- B. provide variations which may help in survival ✓
- C. prevent fertilisation from happening
- D. stop reproduction in the next generation



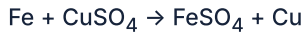
Q21 General Science

What is the role of the prostate gland and seminal vesicles in the human male reproductive system?

- A. To secrete testosterone
- B. To provide fluids for transporting sperm ✓
- C. To produce sperm cells
- D. To lower the temperature of the testes

Q22 General Science

In the following reaction, what colour change is observed?



- A. Red to green
- B. Green to blue
- C. Blue to green ✓
- D. Blue to red

Q23 General Science

When barium chloride reacts with aluminium sulphate, it gives aluminium chloride along with:

- A. a white colour precipitate of barium oxide
- B. a yellow colour precipitate of barium sulphate
- C. a white colour precipitate of barium chloride
- D. a white colour precipitate of barium sulphate ✓

Q24 General Science

Which of the following organisms reproduces by binary fission?

- A. Spirogyra
- B. Planaria
- C. Hydra
- D. Amoeba ✓

Q25 General Science

What type of reaction is $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2$?

- A. Neutralisation
- B. Combination ✓
- C. Decomposition
- D. Displacement



General Science

25 Questions • Answer Key

Q1 General Science

From the given alternatives, which part of the flower finally changes into a fruit in the flowering plant?

- A. Flower
- B. Seed
- C. Ovule
- D. Ovary



Q2 General Science

If the speed of sound in air is 344 m/s, what is the minimum distance required for an observer to hear a distinct echo?

- A. 17.2 m
- B. 34.4 m
- C. 344 m
- D. 0.1 m



Q3 General Science

Which of the following is NOT the use of bleaching powder?

- A. as an oxidising agent in many chemical industries
- B. for bleaching cotton and linen in the textile industry
- C. for removing permanent hardness of water
- D. to make drinking water free from germs



Q4 General Science

An increase of molecular mass in any homologous series indicates:

- A. increase melting point and decrease boiling point
- B. decrease melting point and increases boiling point
- C. decrease melting and boiling points
- D. increase melting and boiling points



Q5 General Science

In liquids, a small fraction of particles at the surface, having higher kinetic energy, which is able to break away from the forces of attraction of other particles, will ultimately get converted into which state?

- A. Deposition
- B. Sublimation
- C. Solid
- D. Vapor



Q6 General Science

Which of the following statements correctly distinguishes a compound from a solution?

- A. A compound has a variable composition, while a solution has a fixed composition.
- B. A compound has a fixed composition and properties distinct from its constituent elements, unlike a solution.
- C. A compound can be separated into its components by physical methods, while a solution cannot.
- D. Both compound and solution are always homogeneous and chemically bonded.



Q7 General Science

The bad taste or smell from the leftover food is caused due to:

- A. the oxidation of sugar
- B. the oxidation of proteins
- C. the oxidation of fats and oil
- D. the oxidation of carbohydrates



Q8 General Science

Which of the following metals forms a protective oxide layer on its surface when exposed to air, preventing further corrosion?

- A. Aluminium
- B. Magnesium
- C. Calcium
- D. Sodium



Q9 General Science

A ball is thrown vertically upwards at a speed of 2 m/s. What will be the maximum height attained and velocity of the body at the highest point, respectively, of the ball? (Take $g = 10 \text{ m/s}^2$)

- A. 5 m and 2 m/s
- B. 0.2 m and 0 m/s
- C. 5 m and 0 m/s
- D. 0.2 m and 2 m/s

**Q10 General Science**

Which of the following particles contribute to the mass number?

- A. Electrons only
- B. Protons only
- C. Electrons and Protons
- D. Protons and Neutrons

**Q11 General Science**

Carbon forms a very large number of compounds due to two unique properties. Which of the following correctly identifies these properties?

- A. Allotropy and isomerism
- B. Good conductivity and sonorous nature
- C. Catenation and tetravalency
- D. High melting point and ductility

**Q12 General Science**

Which of the following is correct if the egg is NOT fertilised with the sperm?

- A. Uterus lining is unaffected
- B. Uterus lining becomes thick and spongy
- C. Uterus lining becomes thin
- D. Uterus lining slowly breaks, sheds as blood and mucous

**Q13 General Science**

Budding in Hydra is best classified as:

- A. fragmentation
- B. fission
- C. sexual reproduction
- D. asexual reproduction

**Q14 General Science**

Which of the following lenses can be used to correct the eye defect myopia?

- A. Convex lens
- B. Plano-convex lens
- C. Cylindrical lens
- D. Concave lens

**Q15 General Science**

In uniform circular motion, which of the following physical quantities remains constant?

- A. Acceleration
- B. Centripetal force
- C. Velocity
- D. Speed

**Q16 General Science**

Which type of epithelial tissue is found lining the kidney tubules?

- A. Cuboidal Epithelium
- B. Glandular Epithelium
- C. Skeletal Epithelium
- D. Columnar Epithelium

**Q17 General Science**

A car starts from rest is accelerated to a velocity of 60 km/hr in 5 minutes. What is the acceleration of the car?

- A. 12 m/s²
- B. 1 m/s²
- C. 0.055 m/s²
- D. 0.025 m/s²

**Q18 General Science**

According to the sign convention for lenses, all distances measured in the direction of incident light are taken as:

- A. zero
- B. depends on the type of lens
- C. negative
- D. positive



Q19 General Science

Through which of the following ways can scientists incorporate desirable characters into crop varieties?

A. Hybridisation



B. Weed control

C. Fertilisers

D. Irrigation

Q20 General Science

Match the following animal tissues with their correct features.

a. Squamous Epithelium	i. Cells are thin and flat and form a delicate lining of the oesophagus
b. Stratified Squamous Epithelium	ii. It forms the inner lining of the respiratory tract
c. Cuboidal Epithelium	iii. It forms the lining of kidney tubules and ducts of salivary glands
d. Ciliated Columnar Epithelium	iv. Cells are arranged in many layers, as in skin

A. a i, b iv, c iii, d ii



B. a iv, b i, c iii, d ii

C. a i, b iii, c ii, d iv

D. a iv, b i, c ii, d iii

Q24 General Science

A ball of mass 3 kg is placed on a shelf 2 m above the ground. The gravitational potential energy of the ball is (take $g = 10 \text{ m/s}^2$):

A. 300 J

B. 6 J

C. 60 J



D. 30 J

Q21 General Science

Which material is generally used for making resistance wires because it has high resistance and high melting point?

A. Copper

B. Aluminium

C. Silver

D. Nichrome

**Q22 General Science**

An electric iron of resistance 15Ω is connected to 220 V supply. How much heat will be produced in one minute?

A. 500 kJ

B. 194 kJ



C. 1.94 kJ

D. 200 kJ

Q23 General Science

In poultry farming, what are the primary purposes for developing improved breeds?

A. Only manure production

B. Egg and meat production



C. Decoration and sports

D. Wool and milk production

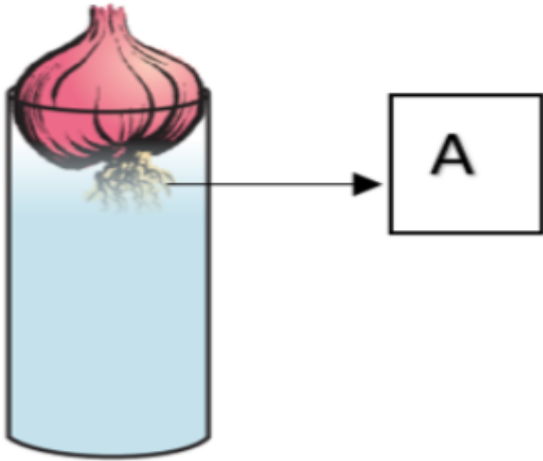


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Q25 General Science

Study the experimental set up containing a water filled jar and an onion with growing roots set vertically up. Which type of tissue is present in the portion A of roots tips?



A. Meristematic tissue



B. Collenchyma

C. Sclerenchyma

D. Parenchyma



General Science

25 Questions • Answer Key

Q1 General Science

The Law of Conservation of Mass was given by:

- A. Joseph Proust
- B. John Dalton
- C. Antoine Lavoisier
- D. Ernest Rutherford



Q2 General Science

Which of the following correctly shows the relationship between magnification (M), the object distances (u) and image- distance (v)?

- A. Magnification = u/v
- B. Magnification = v/u
- C. Magnification = $v \times u$
- D. Magnification = $u + v$



Q3 General Science

Which of the following statements regarding the need for macronutrients in plants is correct?

- A. Macronutrients are harmful to plants if absorbed.
- B. Macronutrients are required by plants in large quantities.
- C. Macronutrients are needed only during flowering.
- D. Macronutrients are not required by plants at all.



Q4 General Science

Which of the following is the correct symbol for the element lead?

- A. Lb
- B. Le
- C. Ld
- D. Pb



Q5 General Science

Which of the following is an application of ultrasound in industry?

- A. Making objects lighter in weight
- B. Detecting cracks in metal blocks
- C. Used in refrigerators for cooling
- D. Increasing the speed of sound in solids



Q6 General Science

Why did Mendel use true-breeding plants as parents in his crosses?

- A. To get large number of plants quickly
- B. To grow them in similar soil condition
- C. To study environmental effects on growth of plants
- D. To study inheritance patterns



Q7 General Science

A boy walks from one end A to the other end B of a straight 1000 m road in 2 minutes and then turns around and walks 400 m back to point C in another 2 minutes. What will be the average velocity (in m/s) of the boy in going from point A to point C?

- A. 15
- B. 25
- C. 2.5
- D. 150



Q8 General Science

Which of the following is a part of the central nervous system in human?

- A. Spinal nerves
- B. Pharynx
- C. Cranial nerves
- D. Spinal cord



Q9 General Science

The process of fission in an amoeba results in the formation of _____.

- A. four genetically different daughter cells
- B. a small daughter cell and a large mother cell that are genetically different
- C. a large number of small, genetically identical daughter cells
- D. two similar sized, genetically identical daughter cells



Q10 General Science

Which of the following is NOT correct for uniform velocity?

- A. The v-t graph is a horizontal line.
- B. Velocity is constant and acceleration is zero.
- C. The area under the v-t graph gives acceleration. ✓
- D. The slope of the line in v-t graph is zero.

Q11 General Science

Which metal lies between magnesium and iron in the activity series?

- A. Zinc ✓
- B. Silver
- C. Copper
- D. Potassium

Q12 General Science

The refractive index of the second medium with respect to the first depends on the:

- A. temperature of the surroundings only
- B. colour (wavelength) of light used and the pair of media ✓
- C. intensity of the incident light
- D. shape of the boundary surface only

Q13 General Science

If 100 J of work is required to transfer 5 C of charge between two points, the potential difference between the points is:

- A. 20 V ✓
- B. 25 V
- C. 50 V
- D. 10 V

Q14 General Science

What is anode mud?

- A. Insoluble impurities settle at anode in electrolytic refining ✓
- B. Soluble impurities in solution in electrolytic refining
- C. A solution of soil and water
- D. Insoluble impurities settle at cathode in electrolytic refining

Q15 General Science

According to Ohm's law, the ratio of potential difference (V) across a conductor to the current (I) through it is constant, provided _____.

- A. temperature remains constant ✓
- B. current is very high
- C. voltage is zero
- D. resistance changes

Q16 General Science

Three solutions A, B, and C have pH values of 3, 7, and 12, respectively. Which of the following statements is correct?

- A. Solution C is neutral while solution A is basic.
- B. Solution A is strongly acidic, and solution C is strongly basic. ✓
- C. Solution A and C both are neutral.
- D. Solution B is basic and solution C is acidic.

Q17 General Science

The phenomenon of spreading out and mixing of a substance with another substance due to the motion of its particles is called which of the following?

- A. Diffusion ✓
- B. Evaporation
- C. Sublimation
- D. Condensation

Q18 General Science

Which of the following methods is commonly used to prevent rancidity in packaged food items?

- A. Adding acids to the food
- B. Heating the food before packing
- C. Flushing with nitrogen gas before sealing ✓
- D. Storing food in oxygen-rich containers

Q19 General Science

Which of the following statements is true about potential energy?

- A. It is always zero at the ground level.
- B. It depends only on mass.
- C. It cannot be converted into kinetic energy.
- D. It can be negative depending on the reference point. ✓



Q20 General Science

Which of the following living organisms have bones that help in body movements?

- A. Earthworm
- B. Snake ✓
- C. Snail
- D. Cockroach

Q21 General Science

Which of the following methods of reproduction is found in Plasmodium?

- A. Budding
- B. Layering
- C. Grafting
- D. Multiple fission ✓

Q22 General Science

Which of the following correctly compares the cell wall and cell membrane in plant and animal cells?

- A. Both plant and animal cells have a cell wall but only plant cells have a cell membrane.
- B. Neither plant nor animal cells have a cell wall, but both have a cell membrane.
- C. Plant cells have both a rigid cell wall and a cell membrane, while animal cells only have a flexible cell membrane. ✓
- D. Animal cells have both a rigid cell wall and a cell membrane, while plant cells only have a flexible cell membrane.

Q23 General Science

Which cell organelle is responsible for packaging and dispatching materials within or outside the cell?

- A. Ribosome
- B. Mitochondria
- C. Golgi apparatus ✓
- D. Nucleus

Q24 General Science

Which of the following is an example of a decomposition reaction?

- A. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ ✓
- B. $\text{Na} + \text{Cl}_2 \rightarrow \text{NaCl}$
- C. $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$
- D. $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$

Q25 General Science

The acceleration due to gravity on the surface of the Earth is given by:

- A. $g = \text{GM}/\text{R}^2$ ✓
- B. $g = \text{GM}/\text{R}$
- C. $g = \text{R}^2/\text{GM}$
- D. $g = \text{GM}$



General Science

25 Questions • Answer Key

Q1 General Science

What happens when we dissolve sugar in water?

- A. The particles of sugar get into the spaces between particles of water. ✓
- B. The particles of sugar and water do not mix.
- C. The particles of sugar will float on top of water.
- D. A colloidal solution is formed.

Q2 General Science

Which of the following cell organelles do NOT have their own DNA?

- A. Plastids
- B. Mitochondria
- C. Nucleus
- D. Lysosomes ✓

Q3 General Science

Which energy change is generally associated with decomposition reactions?

- A. Exothermic energy change
- B. No energy change
- C. Reversible energy change
- D. Endothermic energy change ✓

Q4 General Science

When we pour acetone (nail polish remover) on our palm, we feel cold because:

- A. it evaporates rapidly, absorbing heat from the palm ✓
- B. it releases cold vapours
- C. it blocks nerve signals on the skin
- D. it reacts with water present on the palm

Q5 General Science

Which of the following allotropes of carbon conducts electricity?

- A. Graphite ✓
- B. Charcoal
- C. Diamond
- D. Fullerene

Q6 General Science

Which of the following best describes the process of sexual maturation in humans?

- A. It is a gradual process during adolescence involving physical and hormonal changes ✓
- B. It occurs only in females and stops once menstruation begins
- C. It begins after adulthood and leads to immediate readiness for parenthood
- D. It occurs suddenly and marks the end of body growth

Q7 General Science

Which of the following characteristics is correct about magnetic field lines?

- A. They always form closed loops. ✓
- B. They always start and end at the same pole.
- C. They are open curves.
- D. They intersect each other.

Q8 General Science

Xylem is a complex permanent tissue. Which of the following is correct regarding its composition?

- A. Vessels, xylem collenchyma and xylem fibres
- B. Companion cells, tracheids and xylem fibres
- C. Tracheids, sieve cells and phloem parenchyma
- D. Tracheids, xylem parenchyma and xylem fibres ✓

Q9 General Science

Which part of the brain directly controls the movement of voluntary muscles?

- A. Medulla oblongata
- B. Sensory area
- C. Association area
- D. Motor area ✓



Q10 General Science

A car starts from rest and accelerates uniformly at 2 m/sec^2 for 5 seconds. What is the velocity at the end of 5 seconds?

A. 15 m/sec

B. 5 m/sec

C. 10 m/sec



D. 20 m/sec

Q11 General Science

Which of the following is NOT an application of ultrasound?

A. Cleaning delicate machinery parts

B. Imaging of internal organs

C. Cooking food



D. Detecting cracks in metal blocks

Q12 General Science

A metallic conductor obeys Ohm's law at room temperature. When the applied potential difference across it is increased from V to $2V$, and the temperature is kept constant, the current through the conductor:

A. Doubles because resistance is constant



B. Remains unchanged because current depends only on resistance

C. More than doubles due to increased electron drift velocity

D. Less than doubles due to heating effects

Q13 General Science

What is the function of salivary amylase present in human saliva?

A. It converts amino acids into protein.

B. It converts simple sugars into starch.

C. It converts proteins into amino acids.

D. It converts starch into simple sugars.

**Q14 General Science**

Which of the following nutrients in plants is generally supplied by soil?

A. Boron



B. Carbon

C. Hydrogen

D. Oxygen

Q15 General Science

What does the seed contain that is essential for the growth of a new plant?

A. Chlorophyll

B. Nectar

C. Embryo



D. Sepal

Q16 General Science

According to Archimedes' principle, what is the magnitude of the upward force (buoyant force)?

A. It is equal to the pressure exerted by the fluid.

B. It is equal to the volume of the fluid.

C. It is equal to the weight of the fluid displaced by the body.



D. It is equal to the weight of the immersed body.

Q17 General Science

An object is placed at the centre of curvature of a concave mirror. The image formed is:

A. Between focus and pole, diminished

B. Behind the mirror, virtual

C. At infinity, highly magnified

D. At the centre of curvature, same size

**Q18 General Science**

Which of the following is an example of basic salt?

A. Ammonium chloride

B. Sodium chloride

C. Hydrogen chloride

D. Sodium bicarbonate

**Q19 General Science**

When Newton placed a second inverted prism after the first one, the emergent beam obtained was:

A. only red light

B. white light



C. a rainbow of colours

D. only violet light



Q20 General Science

Which of the following is NOT true about an object in non-uniform motion?

- A. It has different speeds at different points
- B. The change in velocity is zero over time interval** ✓
- C. It moves unequal distances in unequal time intervals
- D. Its velocity changes with time

Q21 General Science

The mechanical energy of a body can be expressed as the sum of _____.

- A. potential energy and kinetic energy** ✓
- B. sound energy and light energy
- C. heat energy and light energy
- D. chemical energy and electrical energy

Q22 General Science

In some reptiles, the sex of the offspring is determined by:

- A. Presence or absence of a Y chromosome
- B. Temperature at which eggs are incubated** ✓
- C. Sex chromosomes
- D. Hormonal levels in the mother

Q23 General Science

The metal which will NOT displace lead from its salt solution is:

- A. Copper** ✓
- B. Magnesium
- C. Calcium
- D. Aluminium

Q24 General Science

Which property is shown by ethanol?

- A. It is basic in nature
- B. It is solid at room temperature
- C. It forms scum with hard water
- D. It has a sweet smell and is volatile** ✓

Q25 General Science

Which of the following statement is correct regarding 'property of Gaseous state'?

- A. In gaseous state, intermolecular distance is very large and intermolecular attraction is very low.** ✓
- B. In gaseous state, intermolecular distance is very low and intermolecular attraction is very large.
- C. In gaseous state, intermolecular distance and intermolecular attraction are very low.
- D. In gaseous state, intermolecular attraction and intermolecular distance are very large



General Science

25 Questions • Answer Key

Q1 General Science

What is associated with a metallic wire carrying an electric current?

A. A magnetic field around it



B. Only electric potential

C. Only heat

D. No physical effect

Q2 General Science

Why is a transportation system essential for excretion in multicellular organisms?

A. To help with reproduction

B. To move waste products to the organs that remove them



C. To circulate digestive enzymes

D. To produce oxygen in cells

Q3 General Science

Which of the following statements about the centre of curvature of a spherical mirror is NOT true?

A. It is not a part of the mirror itself.

B. For a concave mirror, it is located behind the mirror.



C. It lies outside the reflecting surface of the mirror.

D. For a convex mirror, it lies behind the mirror.

Q4 General Science

Why does the growth of an onion root stop after its tip is cut?

A. The lateral meristem gets damaged.

B. The meristematic cells lose their vacuoles.

C. The intercalary meristem starts working.

D. The apical meristem that produces new cells is removed.



Q5 General Science

Which of the following is NOT correct?

A. Multiple reflections improve sound distribution in large halls

B. Multiple reflections are undesirable in small rooms

C. Multiple reflections can cause reverberation

D. Multiple reflections change the pitch of sound



Q6 General Science

Which element has mass number 27 and 14 neutrons present in it?

A. Sodium

B. Magnesium

C. Aluminium



D. Chlorine

Q7 General Science

An object floats on water if _____.

A. Its density is less than water



B. Its weight is zero

C. Its volume is very small

D. Its density is greater than water

Q8 General Science

Which mirror is used by a dentist to see the inside of a patient's mouth?

A. Plane mirror

B. Planoconvex mirror

C. Convex mirror

D. Concave mirror



Q9 General Science

A particle moves in a circle of radius 1.5 m with angular velocity 3 rad/s. What will the ratio of its linear velocity to angular velocity be?

A. 1 : 2

B. 3 : 2



C. 2 : 1

D. 2 : 3

Q10 General Science

Which feature of Spirogyra allows fragmentation to be successful?

A. Single-celled structure

B. Complex tissues

C. Simple filamentous body



D. Presence of seeds



Q11 General Science

Which of the following elements is classified exclusively as a non-metal under standard conditions?

- A. Silver
- B. Zinc
- C. Mercury
- D. Hydrogen

**Q12 General Science**

If both current and resistance are halved, the power reduces to _____.

- A. half of the initial value
- B. one-fourth of the initial value
- C. one-eighth of the initial value
- D. one-third of the initial value

**Q13 General Science**

Which of the following solutions will contain the highest concentration of H^+ ions?

- A. Solution with pH 7
- B. Solution with pH 3
- C. Solution with pH 13
- D. Solution with pH 10

**Q14 General Science**

How long does an unfertilised egg typically survive in the female reproductive tract?

- A. 72 hours
- B. 24 hours
- C. 10 hours
- D. 60 hours

**Q15 General Science**

Which of the following is a crop variety improvement method by introducing a gene that would provide the desired characteristics?

- A. Genetically modified crops
- B. Budding
- C. Natural vegetative reproduction
- D. Grafting

**Q16 General Science**

The energy possessed by a body due to its position or configuration is called _____.

- A. Thermal energy
- B. Kinetic energy
- C. Potential energy
- D. Chemical energy

**Q17 General Science**

Which of the following compounds is a saturated hydrocarbon?

- A. Propene
- B. Cyclohexane
- C. Benzene
- D. Propyne

**Q18 General Science**

Which of the following organs is a part of the human female reproductive system?

- A. Testis
- B. Uterus
- C. Vas Deferens
- D. Prostate Gland

**Q19 General Science**

Read the following statements carefully and select the correct option.

Assertion (A): In the reaction of copper with oxygen, oxygen acts as the reducing agent.
Reason (R): Oxygen adds to copper forming copper oxide.

- A. A is true, but R is false.
- B. Both A and R are true, and R is not the correct explanation of A.
- C. A is false, but R is true.
- D. Both A and R are true, and R is the correct explanation of A.

**Q20 General Science**

In a starch test using a variegated leaf, what is the purpose of adding iodine solution at the end?

- A. To identify the areas without chloroplasts
- B. To stain the starch present in the leaf
- C. To dissolve starch
- D. To remove chlorophyll from green areas



Q21 General Science

Which of the following is NOT an advantage of short-duration crop varieties?

A. Higher chances of crop damage



B. Reduced production cost

C. Possibility of multiple cropping

D. Quick harvesting

Q22 General Science

Which compound is used to prepare bleaching powder?

A. Sodium Carbonate

B. Calcium Hydroxide



C. Calcium Chloride

D. Ammonium Hydroxide

Q23 General Science

Covalent bonds are formed by:

A. Loss of protons

B. Gain of neutrons

C. Sharing of electrons



D. Transfer of electrons

Q24 General Science

Which of the following statements is correct about the concept of 'molecules of compounds'?

A. A molecule of a compound is formed by the separation of atoms of different elements.

B. A molecule of a compound is formed by the combination of atoms of the same element.

C. A molecule of a compound is formed by the separation of atoms of the same element.

D. A molecule of a compound is formed by the combination of atoms of different elements.

**Q25 General Science**

A book is at rest on a table. Which of the following statements correctly describes the action – reaction pair according to Newton's Third Law?

A. The normal force exerted by the table on the book and the gravitational force exerted by the Earth on the book are an action – reaction pair.

B. The force of the book on the table and the normal force of the table on the book are not a balanced pair of forces.

C. The gravitational force exerted by the Earth on the book and the normal force exerted by the table on the book are an action – reaction pair.

D. The gravitational force exerted by the Earth on the book and by the book on the Earth are an action – reaction pair.



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General Science

25 Questions • Answer Key

Q1 General Science

What is the transformation of a larva into an adult frog through drastic changes called?

- A. Fertilisation
- B. Metamorphosis
- C. Zygote formation
- D. Gamete formation

Q2 General Science

The fuse wire in electric circuits works on the principle of _____.

- A. chemical effect of current
- B. heating effect of current
- C. magnetic effect of current
- D. induction effect of current

Q3 General Science

Dispersion of white light through a glass prism takes place because:

- A. different colours travel with the same speed in glass
- B. the prism absorbs some colours and transmits others
- C. white light splits due to reflection inside the prism
- D. different colours travel with different speeds in glass

Q4 General Science

The Moon moves in a curved path around the Earth instead of a straight line because:

- A. the Moon has a very large mass
- B. the Moon has no inertia
- C. the Sun's light pushes the Moon
- D. the Earth's gravitational force provides the centripetal force

Q5 General Science

How is the mass number of an atom calculated?

- A. Protons plus neutrons in nucleus of atom
- B. Total protons plus electrons in the atom
- C. Total electrons plus nucleons in the atom
- D. Atomic number multiplied by 3 as an estimate

Q6 General Science

Which of the following pairs is an example of 'molecule of an element itself'?

- A. Hydrogen gas and oxygen gas
- B. Ammonia and sulphur dioxide
- C. Ammonia and oxygen gas
- D. Hydrogen gas and water

Q7 General Science

What type of reaction is an acid-base reaction?

- A. Redox reaction
- B. Exothermic reaction
- C. Dissociation reaction
- D. Endothermic reaction

Q8 General Science

Match the following: Products of Reaction of Metal Carbonates with Acids

Column A (Reactants)	Column B (Products)
A. Sodium carbonate + HCl	1. Forms white precipitate of CaCO_3
B. Calcium carbonate + H_2SO_4	2. Calcium sulphate + CO_2 + H_2O
C. Metal carbonate + Acid	3. Salt + Carbon dioxide + Water
D. CO_2 passed through lime water	4. Sodium chloride + CO_2 + H_2O

- A. A-4; B-3; C-2; D-1
- B. A-4; B-2; C-3; D-1
- C. A-2; B-1; C-4; D-3
- D. A-3; B-4; C-1; D-2

Q9 General Science

Which of the following defines cross-pollination correctly?

- A. Transfer of pollen from the anther of one flower to the stigma of another flower
- B. Fertilisation of an ovule without pollen transfer
- C. Transfer of pollen from one plant to a non-flowering plant
- D. Transfer of pollen within the same flower



Q10 General Science

Which tissue is specialised for transmitting rapid electrical impulses that enable muscle movement?

- A. Epithelial tissue
- B. Nervous tissue ✓
- C. Adipose tissue
- D. Connective tissue

Q11 General Science

A body undergoes a displacement of 5 m under the action of a constant force of 5 N, in the same direction as the force. How much work will be done under the action of this force?

- A. 1 J
- B. 25 J ✓
- C. 1/5 J
- D. 5 J

Q12 General Science

Which of the following is the primary use of ultrasound in echocardiography?

- A. Examine the structure and function of the heart ✓
- B. Cleaning or removing arterial blockages
- C. Determining body weight
- D. Measuring blood sugar levels

Q13 General Science

What is the main purpose of the 'enrichment of ores' process in metallurgy?

- A. To remove undesirable impurities (gangue) from the ore. ✓
- B. To convert the metal ore into its molten form.
- C. To refine the extracted metal to increase its purity.
- D. To combine the metal with other elements to form alloys.

Q14 General Science

Which of the following is NOT correct about nervous tissue?

- A. Cells are called nerve cells or neurons
- B. Nerve cells are very small in length ✓
- C. Examples are brain and spinal cord
- D. Neuron is made up of axon and dendrites

Q15 General Science

What is the SI unit of pressure used in measuring gases?

- A. Pascal ✓
- B. Kelvin
- C. Joule
- D. Newton

Q16 General Science

Which of the following is human-made material and will NOT be broken down by the action of bacteria?

- A. Butter
- B. Rice
- C. Plastic ✓
- D. Bread

Q17 General Science

What is mixed cropping?

- A. Growing the same crop on a field in all seasons
- B. Alternating between growing crops in one season and leaving the field empty in the following season
- C. Rotating crops on a field seasonally
- D. Growing multiple crops on a field in the same season ✓

Q18 General Science

Arrange the following metals: K, Ca, Al in the order of increasing reactivity.

- A. $Al < Ca < K$ ✓
- B. $K < Al < Ca$
- C. $Ca < K < Al$
- D. $K < Ca < Al$

Q19 General Science

Which of the given statements is correct?

Statement 1: Concave mirrors are used in solar furnaces to focus sunlight at a point for heating.
Statement 2: Convex mirrors can never form real images.

- A. Only statement 1 is correct.
- B. Only statement 2 is correct.
- C. Both statements 1 and 2 are correct . ✓
- D. Both statements 1 and 2 are incorrect .



Q20 General Science

A distance–time graph is a curve rather than a straight line. What does this indicate?

- A. The body is moving with uniform speed.
- B. The body is moving with uniform acceleration.
- C. The body is at rest.
- D. The body is moving with non-uniform speed. ✓

Q21 General Science

For a given material, the resistance per unit length is inversely proportional to which of the following?

- A. Resistivity
- B. Cross-sectional area ✓
- C. Conductivity
- D. Temperature

Q22 General Science

The sexual act is a very intimate connection of bodies and there are many diseases that can be transmitted sexually. Which of the following is caused by bacteria?

- A. Warts
- B. Gonorrhoea only
- C. Both gonorrhoea and syphilis ✓
- D. Syphilis only

Q25 General Science

What is the formula of plaster of paris?

- A. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- B. $\text{CuSO}_4 \cdot 1/2\text{H}_2\text{O}$
- C. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
- D. $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$ ✓

Q23 General Science

Which of the following correctly lists the components of the vascular tissue known as xylem?

- A. Tracheids, vessels, xylem parenchyma, xylem fibres ✓
- B. Companion cells, sieve cells, vessels, tracheids
- C. Tracheids, vessels, sieve tubes, xylem parenchyma
- D. Sieve tubes, companion cells, phloem fibres, phloem parenchyma

Q24 General Science

When an object moves along a straight path but its speed keeps changing, how can we describe its rate of motion?

- A. By checking how far it goes every second
- B. By measuring its constant velocity
- C. By using the total time over the average velocity
- D. By using average velocity over the total time ✓



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following plant tissues allows the movement of materials in both directions?

A. Phloem



B. Sclerenchyma

C. Fibres

D. Xylem

Q2 General Science

Which of the following is a typical physical property of non-metals?

A. They are ductile and shiny like metals.

B. They are brittle and poor conductors of electricity.



C. They are malleable and sonorous.

D. They conduct heat and electricity well.

Q3 General Science

Which of the following is NOT a marine fish?

A. Rohu



B. Pomfret

C. Mackerel

D. Bhetki

Q4 General Science

Which of the following glands add their secretions to make easier transport and to provide nutrition for sperms?

A. Prostate only

B. Pineal

C. Seminal vesicles only

D. Prostate and seminal vesicles



Q5 General Science

A wire made of a certain material has a resistance of $12\ \Omega$ with length l and cross-sectional area A . What will be the resistance of another wire made of the same material but with length $l/3$ and cross-sectional area $2A$?

A. $4\ \Omega$

B. $1\ \Omega$

C. $0.5\ \Omega$

D. $2\ \Omega$



Q6 General Science

In human beings, how is the sex of a child determined?

A. By the difference in number of chromosomes inherited by the child

B. By the environmental conditions prevailing during development of the foetus

C. By the inheritance of an X chromosome from the mother

D. By the inheritance of X or Y chromosome from the father



Q7 General Science

If a book is lying on a table and is not moving, which of the forces are balanced?

A. Weight of the book and normal reaction by the table



B. Weight of the book and friction

C. Normal reaction and friction

D. Only the weight of the book acts

Q8 General Science

Three resistors of $12\ \Omega$, $6\ \Omega$ and $4\ \Omega$ are connected in parallel. The equivalent resistance is _____.

A. $0.05\ \Omega$

B. $1\ \Omega$

C. $22\ \Omega$

D. $2\ \Omega$



Q9 General Science

An object is placed 30 cm from a concave mirror of focal length 20 cm. Using the mirror formula, what will be the image distance?

A. -60 cm



B. -40 cm

C. -12 cm

D. -2.5 cm



Q10 General Science

Liquids are less compressible because:

- A. particles have moderate gaps** ✓
- B. their density is always less than solids
- C. they contain dissolved gases
- D. they have fixed mass always

Q11 General Science

When thrown in soil, which of the following substances will persist in the environment for a long time?

- A. Pieces of bread
- B. Mango seed
- C. Apple peel
- D. Broken glass pieces** ✓

Q12 General Science

Which of the polyatomic ion has 'n' value equal to 3?

- A. PO_4^{3-}** ✓
- B. CO_3^{2-}
- C. SO_4^{2-}
- D. HCO_3^-

Q13 General Science

A straight chain of three carbon atoms having no double bond and -OH functional group at first carbon atom is named:

- A. Propanol** ✓
- B. Propanal
- C. Propane
- D. Propanone

Q14 General Science

A ball is thrown upward with an initial velocity of 12 m/s. What will be its velocity after 1 second? (Take $g = 9.8 \text{ m/s}^2$)

- A. 2.2 m/s** ✓
- B. 12 m/s
- C. 0 m/s
- D. 21.8 m/s

Q15 General Science

What is the percentage of having a male child if the sex chromosomes of the father are XY and those of the mother are XX?

- A. 50%** ✓
- B. 75%
- C. 100%
- D. 25%

Q16 General Science

What is the chemical reaction involved in the preparation of Plaster of Paris from gypsum?

- A. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O} + \text{heat} \rightarrow \text{CaSO}_4 + 2\text{H}_2\text{O}$
- B. $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} + \text{water} \rightarrow \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- C. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O} + \text{heat} \rightarrow \text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} + \frac{3}{2}\text{H}_2\text{O}$** ✓
- D. $\text{CaCO}_3 + \text{heat} \rightarrow \text{CaO} + \text{CO}_2$

Q17 General Science

Which of the following statements is/are correct regarding indicator?

- a. Turmeric is a natural indicator used for acid base titration.
- b. Phenolphthalein is colourless in basic medium and gives pink colour in acidic medium.
- c. Clove oil is categorised as olfactory indicator.

- A. b and c
- B. Only a
- C. a and c** ✓
- D. Only b

Q18 General Science

Which of the following is an example of complex permanent tissue?

- A. Collenchyma
- B. Aerenchyma
- C. Lateral meristem
- D. Phloem** ✓



Q19 General Science

Select the correct option with respect to the following statements.

Statement-1: Suspension is a homogeneous mixture.

Statement-2: The particles of a suspension can be seen by the naked eye.

Statement-3: The solute particles settle down when a suspension is left undisturbed, that is, a suspension is unstable.

A. Statement 1, 2 and 3 are incorrect

B. Statement 1 and 2 are correct

C. Statement 2 and 3 are correct



D. Statement 1, 2 and 3 are correct

Q20 General Science

What term describes the rapid to and fro motion of an object that is essential for producing sound?

A. Rarefaction

B. Refraction

C. Vibration



D. Compression

Q21 General Science

Read the given statements and select the most appropriate option.

Statement 1: Mirror formula is applicable to both concave and convex mirrors, provided the sign convention is followed.

Statement 2: The validity of Mirror formula depends on the size of the object.

A. Both the statements 1 and 2 are not correct.

B. Only statement 2 is correct.

C. Only statement 1 is correct.



D. Both the statements 1 and 2 are correct.

Q25 General Science

A force F acts on a body of mass (m) producing acceleration (a). If the force is $3F$ and mass of the body is reduced to $m/2$. What is the the value of new acceleration in terms of ' a '?

A. a

B. $a/2$

C. $6a$



D. $a/6$

Q22 General Science

Match the following nature and role of metallic oxides.

Column A (Substance)	Column B (Role in Reaction)
A. CuO	1. Salt formed in reaction
B. HCl	2. Acid reacting with basic oxide
C. CuCl ₂	3. Basic oxide reacting with acid
D. H ₂ O	4. Neutralisation product

A. A - 4; B - 1; C - 2; D - 3

B. A - 3; B - 2; C - 1; D - 4



C. A - 3; B - 4; C - 1; D - 2

D. A - 2; B - 3; C - 4; D - 1

Q23 General Science

The fluid content inside the plasma membrane, which also contains many specialised cell organelles, is called:

A. vacuoplasm

B. cytoplasm



C. plasmin

D. nucleoplasm

Q24 General Science

Work done by a constant force depends on which of the following?

A. Mass of the object

B. Displacement only

C. Both force and displacement, and the angle between them



D. Magnitude of force only



General Science

25 Questions • Answer Key

Q1 General Science

For fertilization, the pollen grain should land on which suitable part of the flower?

- A. Petal
- B. Stigma
- C. Filament
- D. Sepal



Q2 General Science

Which of the following pairs correctly matches the device with its main use?

- A. Megaphone – Listening to heartbeat
- B. Stethoscope – Directing sound to a large audience
- C. Horn – Measuring blood pressure
- D. Horn – Amplifying musical sound



Q3 General Science

Which of the following substance is inert and simply persist in the environment for a long time and harm various members of the eco-system?

- A. Tea leaves
- B. Disposable plastic cups
- C. Disposable paper cups
- D. Tea clay kullhads



Q4 General Science

A train is travelling at a speed of 180 km/hr. Brakes are applied so as to produce a uniform acceleration of (-1 m/s^2) . What will be the distance covered by the train before coming to rest?

- A. 16,200 m
- B. 1250 m
- C. 1620 m
- D. 125 m



Q5 General Science

Which statement accurately describes the characteristics of protons in an atom?

- A. They revolve around the nucleus in fixed orbits.
- B. They are located in the nucleus of an atom.
- C. They have negligible mass compared to electrons.
- D. They are negatively charged particles.



Q6 General Science

Which of the following is a heterogeneous mixture?

- A. Soil
- B. Sugar solution
- C. Air
- D. Vinegar



Q7 General Science

Asexual reproduction has differences from sexual reproduction. Which of the following is NOT representing asexual reproduction?

- A. Regeneration
- B. Binary fission
- C. Involvement of both male and female reproductive parts
- D. Fragmentation



Q8 General Science

Which of the following describes the nature of the average speed?

- A. It is a scalar quantity (only magnitude).
- B. It can be negative.
- C. It is a vector quantity (magnitude and direction).
- D. It is always equal to or less than the average velocity.



Q9 General Science

Which activity shows that particles of matter are continuously moving?

- A. Sugar settling at the bottom of a glass of water
- B. Ice melting at room temperature
- C. Fragrance of perfumes spreading in a room
- D. Water being heated to its boiling point



Q10 General Science

Predict the elements corresponding to the following numbers of protons and neutrons.

A: 20 protons and 20 neutrons

B: 19 protons and 20 neutrons

A. A: Magnesium, B: Potassium

B. A: Calcium, B: Potassium ✓

C. A: Calcium, B: Magnesium

D. A: Potassium, B: Calcium

Q11 General Science

Which part of the brain controls involuntary actions such as blood pressure, salivation, and vomiting?

A. Thalamus

B. Cerebrum

C. Medulla oblongata ✓

D. Cerebellum

Q12 General Science

Which of the following statements is correct?

A. Work can be done without displacement.

B. Work is independent of displacement.

C. Work requires both force and displacement. ✓

D. Work can be done without force.

Q13 General Science

The filament of an electric bulb is made of tungsten because it:

A. has a high resistance and can withstand high temperatures ✓

B. is cheap

C. is a good conductor

D. has a low melting point

Q14 General Science

Which of the following simple permanent tissues have its cell walls lignified?

A. Sclerenchyma ✓

B. Phloem

C. Parenchyma

D. Collenchyma

Q15 General Science

Anodising is typically performed on which metal?

A. Zinc

B. Copper

C. Aluminium ✓

D. Steel

Q16 General Science

An object placed between F and 2F of a convex lens forms an image _____.

A. Beyond 2F, real, inverted, and enlarged ✓

B. Between F and the lens, virtual, erect, and diminished

C. At 2F, real, inverted, and diminished

D. At infinity, real, inverted and same size

Q17 General Science

Which of the following statements about the physical properties of non-metals is correct?

A. Non-metals have high density and high melting points.

B. Non-metals are generally brittle in solid state. ✓

C. Non-metals are malleable and ductile.

D. Non-metals are good conductors of electricity.

Q18 General Science

In the process of binary fission in unicellular organisms such as bacteria and protozoa, which of the following is least likely to occur?

A. No need for a second parent

B. Formation of identical daughter cells

C. Rapid population increase under favourable conditions

D. Unequal partition of genetic material ✓

Q19 General Science

Which gland in the human body secretes the growth hormone?

A. Pituitary gland ✓

B. Thyroid gland

C. Pancreas

D. Adrenal gland



Q20 General Science

Which of the following statements is/are true about villi in the small intestine?

Statements:

A: Increase surface area for absorption

B: Contain blood vessels

C: Help in excretion

D: Absorb digested nutrients

A. Only Statement B

B. Only Statements A, B, and D

C. Only Statements A, B and C

D. Only Statement A

Q21 General Science

The heat produced in a conductor due to the flow of current does NOT depend on _____.

A. duration of current flow.

B. direction of current.

C. resistance for a given current.

D. amount of current.

Q22 General Science

The hydrophilic end of a soap molecule is:

A. ionic and interacts with water

B. neutral and non-polar

C. non-ionic and soluble in water

D. non-ionic and soluble in oil

Q23 General Science

Which of the following phenomena is responsible for the blue colour of a clear sky?

A. Scattering

B. Reflection

C. Dispersion

D. Refraction

Q24 General Science

If a person weighing 600 N stands on two feet with a total contact area of 0.05 m^2 , the pressure exerted on the sand is:

A. 12,000 Pa

B. 600 Pa

C. 300 Pa

D. 30,000 Pa

Q25 General Science

Which of the following reactions correctly represents the synthesis of bleaching powder?

A. $2\text{Ca}(\text{OH})_2 + 2\text{NaCl} \rightarrow \text{CaOCl}_2 + \text{CaCl}_2 + 2\text{NaOH} + \text{H}_2\text{O}$

B. $2\text{Ca}(\text{OH})_2 + 2\text{Cl}_2 \rightarrow \text{CaOCl}_2 + \text{CaCl}_2 + \text{H}_2\text{O}$

C. $2\text{Ca}(\text{OH})_2 + 2\text{NaCl} \rightarrow \text{Ca}(\text{OCl})_2 + \text{CaCl}_2 + 2\text{H}_2\text{O}$

D. $2\text{Ca}(\text{OH})_2 + 2\text{Cl}_2 \rightarrow \text{Ca}(\text{ClO})_2 + \text{CaCl}_2 + 2\text{H}_2\text{O}$



General Science

25 Questions • Answer Key

Q1 General Science

From the collected samples of the following solutions from the science laboratory, the correct acid-base pair may be categorised as:

- A. magnesium hydroxide $[Mg(OH)_2]$ and ammonium hydroxide (NH_4OH)
- B. acetic acid (CH_3COOH) and sodium hydroxide $(NaOH)$ ✓
- C. sulphuric acid (H_2SO_4) and nitric acid (HNO_3)
- D. calcium hydroxide $[Ca(OH)_2]$ and potassium hydroxide (KOH)

Q2 General Science

The discovery of which subatomic particle led to the development of Thomson's model?

- A. Electron ✓
- B. Neutron
- C. Positron
- D. Proton

Q3 General Science

Which of the following is NOT an example of a heterogeneous mixture?

- A. Vinegar ✓
- B. Sand and salt
- C. Sand and sugar
- D. Water in oil

Q4 General Science

The correct order of reactivity of the following metals is:

K, Mg, Al, Zn

- A. $Zn > Mg > Al > K$
- B. $Mg > K > Zn > Al$
- C. $K > Al > Mg > Zn$
- D. $K > Mg > Al > Zn$ ✓

Q5 General Science

Which of the following is NOT a membrane bound organelle in eukaryotic cells?

- A. Lysosome
- B. Chromoplast
- C. Vacuole
- D. Ribosome ✓

Q6 General Science

If the velocity of an object changes from an initial value u to the final value v in time (t) , then what will be the acceleration (a) ?

- A. $a = (v - u) \times t$
- B. $a = t/(v - u)$
- C. $a = (v - u)/t$ ✓
- D. $a = v/(u - t)$

Q7 General Science

Which of the following statements about sexual reproduction in animals is correct?

- A. Fertilisation in animals always occurs outside the female body.
- B. Sexual reproduction involves only one parent and produces identical offspring.
- C. All animals reproduce sexually during their entire life span.
- D. Sexual reproduction involves the fusion of male and female gametes. ✓

Q8 General Science

In a running race, a boy starts at rest and reaches 60 m/s velocity in 5 min. If acceleration is uniform, the acceleration and distance covered by the boy during this period are _____ and _____, respectively.

- A. 20 m/s² and 9 km
- B. 0.2 m/s² and 600 m
- C. 0.2 m/s² and 9 km ✓
- D. 12 m/s² and 9000 m



Q9 General Science

Which of the following cells change shape by changing the amount of water in them?

- A. Smooth muscle cell
- B. Cardiac muscle cell
- C. Striated muscle cell
- D. Plant cell

**Q10 General Science**

Why clove oil is used as an olfactory indicator?

- A. Different colour effervescences are observed in acidic and basic medium.
- B. Vigorous fuming of different colours is observed in acidic and basic medium.
- C. It gives a different colour in acidic and basic medium.
- D. It gives a different smell in acidic and basic medium.

**Q11 General Science**

Which metal is placed at the starting of the reactivity series?

- A. Aluminium
- B. Gold
- C. Potassium
- D. Iron

**Q12 General Science**

During inheritance studies, how many copies of the factor was proposed by Mendel, which was controlling traits present in sexually reproducing organisms?

- A. Three
- B. Two
- C. Four
- D. One

**Q13 General Science**

If a current of 4 A flows through a resistor of 50 Ω for 8 minutes, the heat produced is _____.

- A. 288 kJ
- B. 192 kJ
- C. 384 kJ
- D. 96 kJ

**Q14 General Science**

Which type of compound is formed when sodium reacts with chlorine?

- A. Metallic compound
- B. Covalent compound
- C. Coordinate compound
- D. Ionic compound

**Q15 General Science**

Two resistors, R_1 and R_2 , are connected in parallel. Their equivalent resistance is 5 Ω . When one of them is removed, the resistance of the circuit increases to 10 Ω . Which of the following is the correct value of the other resistor?

- A. 20 Ω
- B. 15 Ω
- C. 10 Ω
- D. 5 Ω

**Q16 General Science**

Which of the following statements is NOT correct?

- A. Reverberation is common in large halls with hard walls.
- B. Excessive reverberation can disturb speech.
- C. Reverberation helps improve clarity of sound.
- D. Reverberation occurs due to multiple reflections of sound.

**Q17 General Science**

The centre of curvature of a concave mirror is:

- A. The midpoint of the mirror's aperture
- B. The point on the principal axis where image of an object at infinity is formed
- C. The geometric centre of the spherical surface of which the mirror is a part
- D. The point where parallel rays of light meet after reflection

**Q18 General Science**

Ozone protects the Earth from _____ radiation of the sun.

- A. infrared
- B. ultraviolet
- C. cosmic
- D. gamma



Q19 General Science

Which of the following statements is true about ligaments?

- A. Ligaments connect bones to bones and are very elastic with little matrix. ☒
- B. Ligaments are not highly flexible connective tissues connecting two bones.
- C. Ligaments do not connect bones to bones and are very elastic.
- D. Ligaments connect muscles to bones and are highly flexible.

Q20 General Science

How does surface area affect the rate of evaporation?

- A. Smaller surface area increases evaporation
- B. Larger surface area increases evaporation ☒
- C. Surface area has no effect
- D. Evaporation only occurs with liquids in closed containers

Q21 General Science

Which of the following is parenchyma type and present in aquatic plants, with large air cavities to help them float?

- A. Companion cell
- B. Tracheid
- C. Chlorenchyma
- D. Aerenchyma ☒

Q22 General Science

Which of the following instruments is NOT based on Archimedes' principle?

- A. Ammeter ☒
- B. Submarine
- C. Lactometer
- D. Hydrometer

Q23 General Science

Contraceptive devices such as the loop or the copper-T are placed in which part of the human body?

- A. Heart
- B. Ovary
- C. Uterus ☒
- D. Kidney

Q24 General Science

A convex lens produces a magnification of (-2) , when an object is placed at a distance X cm from it. If the image distance is 40 cm, then what is the value of X ?

- A. -80 cm
- B. $+80$ cm
- C. $+20$ cm
- D. -20 cm ☒

Q25 General Science

If the speed of an object is doubled, its kinetic energy _____.

- A. remains the same
- B. becomes half
- C. becomes four times ☒
- D. becomes double



General Science

25 Questions • Answer Key

Q1 General Science

In the spectrum formed by dispersion of sunlight through a prism, which colour deviates the most?

- A. Red
- B. Green
- C. Violet
- D. Yellow



Q2 General Science

Which of the following glands secretes growth hormones in human beings?

- A. Pituitary gland
- B. Thyroid
- C. Pineal gland
- D. Pancreas



Q3 General Science

Rekha swims in a 40-metre-long pool. She swims from one end to the other and comes back, covering 80 metres in one minute along a straight path. What is her average velocity?

- A. 80 m/min
- B. 0 m/min
- C. 20 m/min
- D. 40 m/min



Q4 General Science

Which of the following best demonstrates that there is a space between particles of matter?

- A. A rubber band stretches
- B. A piece of chalk breaks easily
- C. Ice melts into water
- D. Sugar dissolves in water



Q5 General Science

Which of the following statements correctly describes the direction of conventional electric current?

- A. From the positive terminal to the negative terminal of a cell
- B. The same as the direction of the electrons' flow
- C. From the negative terminal to the positive terminal of a cell
- D. The direction is random and charges flow in a constant way



Q6 General Science

The blades of a windmill rotate because of which of the following?

- A. Sound energy
- B. Elastic energy
- C. Light energy
- D. Wind's kinetic energy



Q7 General Science

Which of the following explains the absence of recessive traits in the F_1 generation and their reappearance in the F_2 generation in Mendel's experiment?

- A. Recessive alleles are hidden in F_1 but reappear in F_2 due to segregation.
- B. Recessive traits skip generations randomly
- C. Recessive traits become dominant in F_2 generation.
- D. Recessive traits are completely destroyed in the F_1 generation



Q8 General Science

A potential difference of 6 V is applied across the two ends of a conducting wire of resistance $R \Omega$. What will be the value of R if the current flowing through the wire is 2 A?

- A. $\frac{1}{3}$
- B. $\frac{1}{12}$
- C. 12
- D. 3



Q9 General Science

A force of 50 N acts perpendicular to a surface of area 0.1 m². What are the values of thrust and pressure exerted on the surface?

- A. Thrust = 25.0 N ; Pressure = 100.0 Pa
- B. Thrust = 50.0 N ; Pressure = 25.0 Pa
- C. Thrust = 50.0 N ; Pressure = 500.0 Pa ✓
- D. Thrust = 100.0 N ; Pressure = 50.0 Pa

Q10 General Science

A man rides a bicycle in a circular track of radius 10 m. He completes one round in 10 minutes. What is his average velocity?

- A. 0.1 m/s
- B. 1 m/s
- C. 6.2 m/s
- D. 0 m/s ✓

Q11 General Science

In the chlor-alkali process, what is given off at the anode?

- A. Nitrogen gas
- B. Sodium Hydroxide
- C. Chlorine gas ✓
- D. Hydrogen gas

Q12 General Science

Why does sexual reproduction result in greater variation among offspring?

- A. It occurs only in humans.
- B. It produces exact replicas of the parent.
- C. It allows combination of genetic material from two individuals. ✓
- D. It involves copying of identical DNA.

Q13 General Science

Select the correct statement with respect to 'particles of matter'.

- A. Particles of matter move continuously. ✓
- B. In solids, particles have more space between them.
- C. Particles of matter are stationary.
- D. In liquid, particles have no space between them.

Q14 General Science

Which of the following structures is present at the surface of the rough endoplasmic reticulum membrane?

- A. Plasma membrane
- B. Chromosome
- C. Ribosome ✓
- D. Cell wall

Q15 General Science

The main purpose of having a curved ceiling in a concert hall is to _____.

- A. Prevent sound from entering the hall
- B. Increase the pitch of music
- C. Absorb all sound
- D. Focus sound waves to reach all parts of the hall evenly ✓

Q16 General Science

Which of the following statements is FALSE regarding cells?

- A. Cells can be round, oval, spindle-shaped or branched.
- B. Nerve cells are long to help in the conduction of impulses.
- C. Cell shape is often related to its function.
- D. All cells are of the same size and shape. ✓

Q17 General Science

Which of the following materials remains unchanged over long periods of time?

- A. Silk cloth bag
- B. Cotton cloth bag
- C. Plastic bag ✓
- D. Jute bag

Q18 General Science

What is the primary role of a 'functional group' in an organic compound?

- A. To provide the characteristic chemical properties of the compound ✓
- B. To change the carbon chain from straight to branched
- C. To determine the physical state (solid, liquid, gas) of the compound
- D. To increase the molecular mass of the compound



Q19 General Science

Tooth enamel made of calcium hydroxyapatite starts decaying when pH in mouth is lower than:

- A. 7.5
- B. 5.5
- C. 6.5
- D. 8.5

**Q20 General Science**

In which part of the neurons, is the first electrical impulse created?

- A. Nerve ending
- B. Axon
- C. Dendrite
- D. Cell body

**Q21 General Science**

External fertilisation is found in which of the following organisms?

- A. Hen
- B. Cow
- C. Fish
- D. Human

**Q22 General Science**

Which of the following statements correctly explains the phenomenon of dispersion?

- A. Dispersion is the scattering of light by colloidal particles.
- B. Dispersion is the bending of light as a light ray of single wavelength goes from one medium to another.
- C. Dispersion is the splitting of white light into its seven constituent colours as it passes through a glass prism.
- D. Dispersion is the bouncing back of light when it strikes a surface.

**Q23 General Science**

Calcium hydroxide reacts slowly with the carbon dioxide in air to form a thin layer of which of the following substances that could be used for the purpose of whitewashing?

- A. $\text{Ca}(\text{HCO}_3)_2$
- B. CaSO_4
- C. CaCO_3
- D. CaO

**Q24 General Science**

What is the atomic number of an element that has 17 electrons and 18 neutrons?

- A. 1
- B. 18
- C. 35
- D. 17

**Q25 General Science**

Which among the following covalent compounds will have the least number of shared electron pairs?

- A. O_2
- B. N_2
- C. CH_4
- D. H_2



General Science

25 Questions • Answer Key

Q1 General Science

Which component(s) of blood is/are mainly responsible for transporting food, carbon dioxide and nitrogenous wastes?

- A. White blood cells
- B. Platelets
- C. Red blood corpuscles
- D. Plasma



Q2 General Science

What happens to a stone tied to a string and moving in a circular path when the string is suddenly released?

- A. It changes direction and moves in a zig-zag path
- B. It returns to its starting point
- C. It stops immediately
- D. It continues moving in the direction it was heading at the moment of release



Q3 General Science

Which of the following statements correctly describes image formation by a convex mirror?

- A. When the object is at a finite distance, the image is formed between the pole and focus, virtual and diminished.
- B. When the object is at a finite distance, the image is formed beyond the centre of curvature, real and enlarged.
- C. When the object is at infinity, the image is formed at the pole and is real and inverted.
- D. When the object is at infinity, the image is formed at the focus, real and inverted.



Q4 General Science

What is the primary reason ores are enriched prior to the extraction of metals?

- A. To eliminate earthy impurities such as sand and unwanted rock
- B. To enhance the melting point of the mineral content for refining
- C. To improve the final metal's resistance to corrosion and rust
- D. To alter the internal crystal structure of the ore for conversion



Q5 General Science

Which of the following plants can have buds in the margins of leaves?

- A. Peepal
- B. Neem
- C. Mango
- D. Bryophyllum



Q6 General Science

What is the primary function of the dendrites in a neuron?

- A. To protect the neuron
- B. To transmit signals from the axon to the cell body
- C. To create an electrical impulse
- D. To form a synapse



Q7 General Science

Read the given statements and select the most appropriate option.

Statements:

A: Coal and petroleum were formed from the degradation of bio-mass.

B: They are exhaustible resources.

- A. Both statements A and B are correct
- B. Only statement B is correct
- C. Neither statement A nor B is correct
- D. Only statement A is correct



Q8 General Science

The reaction between CaO and H_2O is highly exothermic and produces Ca(OH)_2 . This is an example of:

- A. Double displacement reaction
- B. Combination reaction
- C. Displacement reaction
- D. Rearrangement reaction



Q9 General Science

In which of the following parts of the human body do the epithelial cells have cilia?

- A. Food pipe
- B. Respiratory tract ✓
- C. Stomach wall
- D. Buccal cavity

Q10 General Science

A wooden block has a mass of 6 kg and its size is 40 cm × 30 cm × 20 cm. It is placed on a table resting on its 30 cm × 20 cm side. If $g = 10 \text{ m/s}^2$, what is the pressure it puts on the table?

- A. 300 Pa
- B. 200 Pa
- C. 100 Pa
- D. 1000 Pa ✓

Q11 General Science

What makes cartilage more flexible than bone in the human body?

- A. It contains a matrix filled with fat.
- B. It joins muscles to bones.
- C. It contains a fluid-like matrix. ✓
- D. It contains a solid, protein-rich matrix.

Q12 General Science

The potential energy acquired by a balloon when we press it (changing its shape), or by a spring inside a toy car when wound, is possessed by virtue of the object's _____.

- A. acceleration rate
- B. constant speed
- C. mass and volume
- D. configuration ✓

Q13 General Science

Which of the following is an example of a combination reaction?

- A. $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$
- B. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2$ ✓
- C. $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$
- D. $\text{CuSO}_4 + \text{BaCl}_2 \rightarrow \text{BaSO}_4 + \text{CuCl}_2$

Q14 General Science

Which of the following rules can be used to determine the direction of magnetic field due to a current carrying circular loop?

- A. Flemming's Left Hand Rule
- B. Maxwell's Left Hand Rule
- C. Flemming's Right Hand Rule
- D. Right Hand Thumb Rule ✓

Q15 General Science

When an acid reacts with a base, which of the following is/are always formed, regardless of the specific acid or base used?

- A. Salt and water ✓
- B. Oxygen
- C. Hydrogen gas
- D. Carbon dioxide

Q16 General Science

How many grams of sodium carbonate are produced when 112 g of sodium hydroxide reacts with 44 g of carbon dioxide, resulting in 18 g of water?

- A. 138 g ✓
- B. 141 g
- C. 143 g
- D. 132 g

Q17 General Science

A battery of 12 V is connected in series with resistors of 1 Ω , 2 Ω , 3 Ω , 4 Ω and 10 Ω , respectively. How much current would flow through the 10 Ω resistor?

- A. 1.0 A
- B. 1.2 A
- C. 0.6 A ✓
- D. 12 A

Q18 General Science

Each succeeding member of the homologous series of alkane differs from the previous one by a unit that consists of:

- A. two carbon and two hydrogens
- B. one carbon and two hydrogens ✓
- C. one carbon and three hydrogens
- D. two carbon and three hydrogens



Q19 General Science

If the frequency of a sound wave increases but its speed remains constant, then its wavelength will:

- A. Become zero
- B. Remain the same
- C. Increase
- D. Decrease

**Q20 General Science**

Which of the following activities best demonstrates that there is a force of attraction between particles of matter?

- A. Breaking a chalk stick
- B. Compressing a sponge
- C. Heating ice to form water
- D. Dissolving sugar in water

**Q21 General Science**

The thalamus (receptacle) in flowers performs which of the following functions?

- A. Supports flower parts and can become part of the fruit.
- B. Produces nectar.
- C. Produces pollen grains.
- D. Forms the ovules.

**Q22 General Science**

Which particle did JJ Thomson discover?

- A. Proton
- B. Nucleus
- C. Electron
- D. Neutron

**Q23 General Science**

A biologist cuts a hydra into two unequal parts. One part has a fully formed bud. What is most likely to happen to the bud?

- A. The bud will die instantly
- B. The bud will turn into a spore
- C. The hydra will not survive
- D. The bud will mature into a new hydra

**Q24 General Science**

Which of the following is a converging lens?

- A. Convex lens
- B. Concave lens
- C. Planoconcave lens
- D. Cylindrical lens

**Q25 General Science**

A car moves with uniform speed along a straight road. Its distance–time graph is:

- A. a straight line inclined to the time-axis
- B. a straight line parallel to the time-axis
- C. a curve concave downwards
- D. a curve concave upwards



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following characteristics of pea was a dominant trait, used by Mendel in his experiments?

- A. Green Seeds
- B. Wrinkled Seeds
- C. Dwarf Plants
- D. Tall Plants



Q2 General Science

For a distinct echo to be heard, the minimum time interval between the original sound and the reflected sound should be approximately _____.

- A. 0.1 s
- B. 0.5 s
- C. 0.01 s
- D. 1 s



Q3 General Science

Which of the following is true about action and reaction forces according to Newton's third law?

- A. They act in the same direction on the same object
- B. They act on two different objects at the same time
- C. They cancel each other out because they act on one object
- D. They act on the same object at different times



Q4 General Science

The phenomenon of dispersion of light was first explained by _____.

- A. Christiaan Huygens
- B. James Clerk Maxwell
- C. Isaac Newton
- D. Albert Einstein



Q5 General Science

Which of the following birth control methods can cause hormonal imbalance, and probably health issues?

- A. Copper-T
- B. Condoms
- C. Tubectomy
- D. Oral contraceptive pills



Q6 General Science

Which of the following is NOT responsible for the transmission of HIV-infection?

- A. Sharing infected needles
- B. Sexual contact with infected person
- C. Hugging of infected person
- D. Transfusion of contaminated blood



Q7 General Science

Which of the following are the covering or protective tissues in the animal body?

- A. Parenchyma tissues
- B. Nervous tissues
- C. Sclerenchyma tissues
- D. Epithelial tissues



Q8 General Science

Which of the following statements is INCORRECT for mass number?

- A. Isobars have same mass number.
- B. Mass number is equal to the sum of number of neutrons and number of protons.
- C. Protium and deuterium have same the mass number.
- D. The number of nucleons is same as mass number.



Q9 General Science

Which of the following statements about olfactory indicators is correct?

- A. In basic solutions, vanilla essence retains its original sweet smell.
- B. In basic solutions, the smell of onion extract remains unchanged.
- C. Onion and vanilla both lose their smell in acidic conditions.
- D. In acidic solutions, onion extract retains its characteristic smell. ✓

Q10 General Science

When acid reacts with a metal carbonate, it forms:

- A. gas and solid precipitate only
- B. salt, carbon dioxide, and water ✓
- C. salt and hydrogen gas only
- D. a base and water as products

Q11 General Science

What does the area under a velocity-time graph represent for motion along a straight line?

- A. The total displacement of the object ✓
- B. The change in acceleration
- C. The final velocity of the object
- D. The total distance between two points

Q12 General Science

The commercial unit of electric energy is kilowatt hour (kW h). Which of the following is the correct value of 1kWh?

- A. 3.6×10^6 Joule ✓
- B. 1.9×10^6 Joule
- C. 3.0×10^6 Joule
- D. 1.6×10^6 Joule

Q13 General Science

If the power of accommodation of a normal human eye is maximum, which of the following is correct for the ciliary muscles?

- A. Fully relaxed
- B. Partially contracted
- C. Fully contracted ✓
- D. Partially relaxed

Q14 General Science

A person does 600 J of work in 3 minutes. What is the average power?

- A. 330 W
- B. 20 W
- C. 200 W
- D. 3.33 W ✓

Q15 General Science

Which of the following conditions will increase the rate of evaporation of a liquid?

- A. Decrease in surface area
- B. Increase in humidity
- C. Increase in wind speed ✓
- D. Decrease in temperature

Q16 General Science

Why is conservation of petroleum important?

- A. Petroleum is a non-renewable resource. ✓
- B. Petroleum does not affect the environment adversely.
- C. Petroleum is a renewable resource.
- D. Petroleum is abundant in nature.

Q17 General Science

Which of the following acid-base indicators is colourless in acidic medium and pink in basic medium?

- A. Bromothymol blue
- B. Litmus
- C. Phenolphthalein ✓
- D. Methyl orange

Q18 General Science

During electrolytic refining, which substance(s) get(s) collected at the cathode?

- A. Organic matter left from ores
- B. The same metal with new bonds
- C. Insoluble impurities and gases
- D. Pure form of the impure metal ✓



Q19 General Science

In Rutherford's model of an atom, which of the following particles are double charged on helium ions?

- A. Alpha particles ✓
- B. Delta particles
- C. Beta particles
- D. Gamma particles

Q20 General Science

Read the following statements carefully and select the INCORRECT one.

- A. Cerebellum helps in maintaining body posture and balance.
- B. Medulla oblongata controls reflex actions like pulling hand away from a hot object. ✓
- C. Spinal cord acts as a relay between the brain and the rest of the body and also controls reflex actions.
- D. Cerebrum is the largest part of the human brain and is responsible for thinking and voluntary actions.

Q21 General Science

The dense structure inside the nucleus that produces ribosomes is called the ____.

- A. mitochondria
- B. lysosome
- C. centrosome
- D. nucleolus ✓

Q22 General Science

Which of the following is true about the mass of an object?

- A. It stays the same no matter where the object is. ✓
- B. It changes from place to place.
- C. It increases at pole.
- D. It depends on gravity.

Q23 General Science

Which of the following is a saturated hydrocarbon?

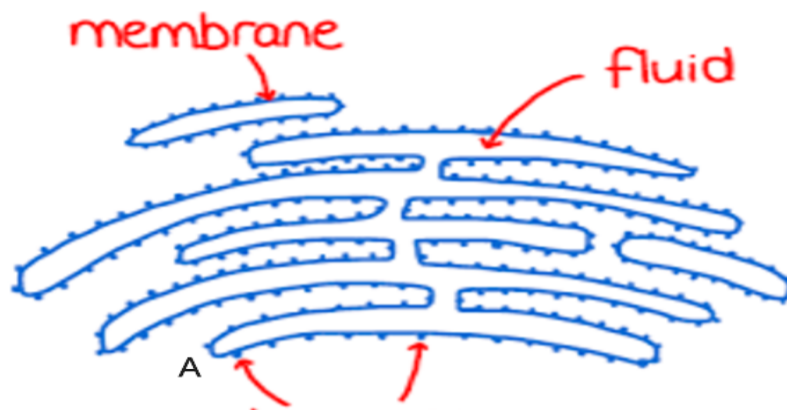
- A. Ethene
- B. Ethyne
- C. Butyne
- D. Propane ✓

Q24 General Science

The symbol of a battery is:

- A. a circle with a dot
- B. a rectangle with arrows
- C. several cells joined together ✓
- D. one long and one short line





What is the primary function of the structure 'A' attached to the rough endoplasmic reticulum in the given diagram?

- A. Digestion of food particles
- B. Storing genetic material
- C. Production of fat molecules
- D. Manufacturing proteins



General Science

25 Questions • Answer Key

Q1 General Science

If the velocity of a body is doubled, its kinetic energy becomes:

- A. half
- B. four times
- C. double
- D. eight times



Q2 General Science

What is the primary component of the plant cell wall?

- A. Cutin
- B. Suberin
- C. Cellulose
- D. Lignin



Q3 General Science

Which of the following is NOT a base unit in the International System of Units (SI)?

- A. Second
- B. Kilogramme
- C. Joule
- D. Metre



Q4 General Science

If the thrust acting on a surface remains constant, how does the pressure change with the area of contact?

- A. Pressure increases when area increases.
- B. Pressure decreases when area decreases.
- C. Pressure increases when area decreases.
- D. Pressure does not depend on area.



Q5 General Science

Select the correct option regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Iron gets coated with a reddish-brown substance when exposed to moist air.
Reason (R): Rust forms due to the reaction of iron with moisture and oxygen.

- A. A is false, but R is true.
- B. Both A and R are true, and R is not the correct explanation of A.
- C. A is true, but R is false.
- D. Both A and R are true, and R is the correct explanation of A.



Q6 General Science

When a light ray passes through a rectangular glass slab, the emergent ray is _____.

- A. Along the same line as the incident ray
- B. Perpendicular to the incident ray
- C. Bent toward the normal without displacement
- D. Parallel to the incident ray but shifted sideward



Q7 General Science

An electric bulb is connected to a 240 V generator and draws a current of 0.25 A. What is the power consumed by the bulb?

- A. 60 W
- B. 60 J
- C. 960 W
- D. 960 J



Q8 General Science

How does pollination contribute to seed formation in plants?

- A. By producing nectar to attract pollinators
- B. By forming a protective seed coat around the ovule
- C. By transferring pollen from the anther to the stigma, enabling fertilisation
- D. By dispersing seeds to new locations



Q9 General Science

Which of the following is true about the cells of meristematic tissue?

- A. They are active cells with dense cytoplasm, thin walls, prominent nuclei and no vacuoles.** ✓
- B. They are inactive with large vacuoles and thick walls.
- C. They are dead cells with no nucleus or cytoplasm.
- D. They are loosely packed, mature cells with large intercellular spaces.

Q10 General Science

What is an ion?

- A. A proton
- B. A molecule
- C. An atom or group of atoms with a positive or negative charge** ✓
- D. A neutral atom

Q11 General Science

Which of the following metals is characterised by low density and softness?

- A. Potassium** ✓
- B. Magnesium
- C. Aluminium
- D. Copper

Q12 General Science

Select the option regarding the matter which has sufficient spaces between them or are not tightly packed.

Salt, Iron, Sugar

- A. Both sugar and salt** ✓
- B. Only iron
- C. Only sugar
- D. Both iron and salt

Q13 General Science

Which of the following is INCORRECT about striated muscle?

- A. Also called voluntary muscles
- B. These are present in limbs
- C. Mostly attached to bones and help in body movement
- D. Each striated muscle fibre contains a single nucleus** ✓

Q14 General Science

What does Snell's Law of refraction state about the relationship between the angle of incidence and the angle of refraction for the given pair of media?

- A. Their difference is always constant.

- B. The ratio of the sine of the angle of incidence to the sine of the angle of refraction remains constant.** ✓

- C. Both angles are always equal in all media.

- D. Their sum is always 90°.

Q15 General Science

A bus travels a 6 km distance in 20 minutes to go from point A to point B. The bus travels from point B to point A in 30 minutes. What is the average speed in m/s of the bus?

- A. 24

- B. 400

- C. 2400

- D. 4** ✓

Q16 General Science

Which of the following components is represented by a zig-zag line in a circuit diagram?

- A. Resistor** ✓

- B. Switch

- C. Bulb

- D. Battery

Q17 General Science

Which of the following metals reacts most vigorously with cold water?

- A. Cobalt

- B. Copper

- C. Iron

- D. Sodium** ✓

Q18 General Science

Which of the following reactions is an example of a double displacement reaction?

- A. $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$

- B. $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$** ✓

- C. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$

- D. $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$



Q19 General Science

How can the transmission of certain sexually transmitted infections (STIs) be reduced during sexual activity?

- A. By only engaging in sexual activity during daytime
- B. By taking antibiotics before every sexual act
- C. By avoiding physical contact with all individuals
- D. By using protection such as condoms during intercourse ✓

Q20 General Science

What is reverberation?

- A. Loss of sound energy in air
- B. Spreading of sound in all directions
- C. Persistence of sound due to multiple reflections of sound waves ✓
- D. Change in pitch of sound

Q21 General Science

Which of the following statements about coal and petroleum conservation is correct?

- A. They do not cause pollution.
- B. Their formation takes millions of years. ✓
- C. They are renewable resources of energy.
- D. They are inexpensive to extract.

Q22 General Science

Which of the following is essential for animals to participate in the process of mating?

- A. They must be tall
- B. Sexual immaturity
- C. Physical maturity ✓
- D. They must have attractive eyes

Q23 General Science

Which of the following vitamins are maintained at high levels in poultry feed to support optimal growth and health?

- A. Vitamin B9 and B12
- B. Vitamin A, D and E ✓
- C. Vitamin B1, B2, B3
- D. Vitamin C and K

Q24 General Science

When fats and oils are oxidised, they develop a smell and taste that is:

- A. spicy
- B. pleasant
- C. rancid ✓
- D. fruity

Q25 General Science

An athlete runs on a circular track with a diameter of 300 m and completes one round in 50 seconds. If the athlete runs for 2 minutes and 30 seconds, what is the total distance covered from the starting point?

(Use $\pi = 3.14$)

- A. Distance = 471 m
- B. Distance = 942 m
- C. Distance = 2826 m ✓
- D. Distance = 1500 m



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is NOT a molecule of a compound?

A. NH_3

B. HCl

C. O_3



D. CH_4

Q2 General Science

A long straight wire carries a current I , and the magnetic field at a distance r from the conductor is B . If the distance from a straight current-carrying wire is doubled, what will be the magnetic field at that point?

A. Zero

B. $B/2$



C. $2B$

D. B

Q3 General Science

Which of the following statement is INCORRECT about simple permanent tissue?

A. Food storage occurs in simple permanent tissue

B. Sclerenchyma is the most common simple permanent tissue



C. Simple permanent tissue is generally composed of living cells

D. It founds few layers beneath the epidermis

Q4 General Science

Carbon forms many compounds because of:

A. High atomic mass and large size

B. Ability to form ionic crystals

C. Catenation and tetravalency



D. Reactivity with noble gases

Q5 General Science

Which of the following belongs to the alkyne group?

A. C_6H_6

B. C_2H_4

C. C_3H_4



D. C_3H_8

Q6 General Science

A man contracts HIV even though his partner is healthy. Which of the following behaviours from his personality could explain this?

A. Using sterilised needles

B. Having protected sex

C. Having multiple unprotected sexual partners



D. Maintaining a healthy diet

Q7 General Science

Brass is an example of:

A. a compound

B. an element

C. a homogeneous mixture



D. a heterogeneous mixture

Q8 General Science

Blood is called a connective tissue because _____.

A. it connects and transports material throughout the body



B. it is red in colour

C. it supports bones

D. it is found only in muscles

Q9 General Science

Which gas reacts with sodium hydroxide to form sodium bicarbonate and sodium carbonate?

A. CO

B. SO_2

C. NO_2

D. CO_2



Q10 General Science

If Girl A takes 20 s and Girl B takes 50 s to climb a rope, both performing 3200 J of work, their difference in performance is characterised by which physical concept?

A. Total energy consumed

B. Total displacement

C. Power



D. Gravitational force



Q11 General Science

What is the benefit of developing dwarf broiler parents in poultry?

- A. To increase flight ability
- B. To make them resistant to rain
- C. To lay larger eggs
- D. To reduce feed consumption and improve meat yield ✓

Q12 General Science

In the case of unbalanced forces acting on an object, the acceleration (a) produced is in the direction of the _____.

- A. initial velocity
- B. force of friction
- C. net force (resultant force) acting on the object ✓
- D. largest force

Q13 General Science

The chemical formula of the compound sodium carbonate is represented as:

- A. Na_3CO_4
- B. Na_3CO_2
- C. Na_2CO_3 ✓
- D. Na_3CO_3

Q14 General Science

The colour of silver chloride changes when placed in sunlight for some time due to the:

- A. Thermal decomposition of silver chloride
- B. Combination reaction of silver chloride with oxygen
- C. Photochemical decomposition of silver chloride by sunlight ✓
- D. Displacement reaction by oxygen and water

Q15 General Science

A stone is thrown downward with an initial velocity of 5 m/s. After 2 seconds, its final velocity v (taking $g = 10 \text{ m/s}^2$) will be:

- A. 5 m/s
- B. 10 m/s
- C. 25 m/s ✓
- D. 20 m/s

Q16 General Science

Which of the following statements regarding the need for macronutrients in plants is correct?

- A. Macronutrients are required by plants in large quantities for proper growth and development. ✓
- B. Macronutrients are less important than micronutrients.
- C. Plants can survive without macronutrients.
- D. Macronutrients are only required during the flowering stage.

Q17 General Science

Which type of spherical mirror has its reflecting surface curved outwards and possesses a centre of curvature C that lies behind the mirror?

- A. Plane mirror
- B. Converging mirror
- C. Convex mirror ✓
- D. Concave mirror

Q18 General Science

A convex mirror is generally used as a rear-view mirror in vehicles because it:

- A. Produces magnified images
- B. Produces real and inverted images
- C. Absorbs most of the light rays
- D. Produces a wider field of view ✓

Q19 General Science

The bud in Hydra:

- A. grows as an outgrowth ✓
- B. forms inside the parent's body
- C. develops on a stalk
- D. forms through spores

Q20 General Science

A sound wave has a frequency of 1600 Hz. If the wavelength of the wave is 0.2 m, what will be the speed of the wave?

- A. 32 m/s
- B. 8000 m/s
- C. 800 m/s
- D. 320 m/s ✓



Q21 General Science

Which of the following is INCORRECT about meristematic tissues?

- A. Actively dividing cells
- B. Thin walled
- C. Presence of vacuoles
- D. Lack of vacuoles

**Q22 General Science**

Which of the following statements about resistivity is correct?

- A. It depends only on the nature and temperature of the material
- B. It increases with the cross-sectional area
- C. It decreases when the length increases
- D. It changes with the shape of the conductor

**Q23 General Science**

An object moves 10 m in 2 s. On a distance–time graph, what is the slope?

- A. 10 m/s
- B. 8 m/s
- C. 20 m/s
- D. 5 m/s

**Q24 General Science**

Esters are formed by the reaction of:

- A. alcohol and acid in basic medium
- B. alcohol and acid at low pressure
- C. alcohol and acid in acidic medium
- D. alcohol and aldehyde in the presence of dehydrating agent

**Q25 General Science**

Which of the following statements is/are correct regarding sexual reproduction in plants?

Statement A: After fertilisation, the zygote divides several times to form an embryo within the ovule

Statement B: The ovule develops a tough coat and is gradually converted into a seed.

- A. Only statement B
- B. Only statement A
- C. Neither statement A nor B
- D. Both statements A and B



General Science

25 Questions • Answer Key

Q1 General Science

A certain force acting on a 20 kg mass changes its velocity from 5 m/s to 2 m/s. Calculate the work done by this force.

- A. 210 J
- B. -210 J
- C. -420 J
- D. 420 J



Q2 General Science

Which subatomic particle has a negative charge but negligible mass?

- A. Neutron
- B. Nucleons
- C. Proton
- D. Electron



Q3 General Science

What is the correct symbol for the element sodium?

- A. So
- B. Na
- C. Sd
- D. S



Q4 General Science

A wire with resistance R is cut into seven equal parts. These parts are then connected in parallel. If the equivalent resistance of this new combination is R' , what is the value of the ratio R / R' ?

- A. $1/7$
- B. 49
- C. 7
- D. $1/49$



Q5 General Science

A characteristic feature that is NOT associated with soap is:

- A. micelles formation
- B. hydrophobic tail
- C. works perfectly with hard water
- D. hydrophilic head



Q6 General Science

Pair the term to complete the analogy.

Chlorophyll : Green pigment :: Starch : ____.

- A. Oxygen carrier
- B. Energy storage
- C. Protein
- D. Water source



Q7 General Science

Which of the following is true?

- A. Advanced sunrise and delayed sunset is due to atmospheric refraction.
- B. Advanced sunrise and delayed sunset is due to Earth's rotation only.
- C. Advanced sunrise and delayed sunset is due to scattering of light.
- D. Advanced sunrise is due to scattering and delayed sunset is due to refraction.



Q8 General Science

Sodium, carbon and oxygen elements are present in Washing Soda. Select the INCORRECT symbol of these elements.

- A. O
- B. C
- C. SO
- D. Na



Q9 General Science

The diameter of the reflecting curved surface of a spherical mirror is called ____.

- A. Pole
- B. Focal length
- C. Aperture
- D. Radius of curvature



Q10 General Science

Which of the following statements is correct?

- A. The SI units of weight and mass are the same
- B. Weight is independent of gravity
- C. Mass is the amount of matter in an object ✓
- D. Mass changes with location

Q11 General Science

The tongue helps in digestion mainly by _____.

- A. absorbing nutrients
- B. crushing food into smaller pieces
- C. secreting digestive enzymes
- D. mixing food with saliva ✓

Q12 General Science

In a domestic circuit, the live wire is generally of which colour?

- A. Green
- B. Yellow
- C. Red ✓
- D. Black

Q13 General Science

The molecules of an element are constituted by:

- A. the difficult type of atoms
- B. the complex type of atoms
- C. the same type of atoms ✓
- D. the different type of atoms

Q14 General Science

What is the effect of oral contraceptive pills in the body of human females?

- A. They prevent maturation of primary oocyte. ✓
- B. They block the passage of sperms in vagina.
- C. They are toxic to the incoming sperms.
- D. They create a physical barrier in fallopian tube.

Q15 General Science

According to Mendel, when a tall pea plant (TT) is crossed with a short pea plant (tt), the F1 offspring will be:

- A. 50% tall (Tt), 50% short (tt)
- B. all tall (Tt) ✓
- C. all short (tt)
- D. 75% tall (TT/Tt), 25% short (tt)

Q16 General Science

Which of the following is NOT an abiotic resistance for crop?

- A. Drought
- B. Heat
- C. Insects ✓
- D. Salinity

Q17 General Science

Which of the following statements about lysosomes is correct?

- A. Lysosomes contain digestive enzymes. ✓
- B. Lysosomes synthesise fats.
- C. Lysosomes contain growth hormones.
- D. Lysosomes synthesise proteins.

Q18 General Science

Which of the following is an example of uniform circular motion?

- A. A satellite orbiting the Earth ✓
- B. A person walking in a straight line
- C. A ball thrown vertically upwards
- D. A car moving on a straight road

Q19 General Science

What is the purpose of anodising aluminium metals?

- A. To increase its electrical conductivity
- B. To reduce its melting point
- C. To make it more reactive with air
- D. To form a protective oxide layer ✓



Q20 General Science

Which of the following pairs of elements has the same number of neutrons?

A. B, C



B. He, Li

C. Li, Be

D. Be, B

Q21 General Science

Which of the following is the correct way to reduce reverberations?

A. Using sound-absorbent materials



B. Using hard concrete floor

C. Removing furniture

D. Using marble walls

Q22 General Science

In the context of a reflex arc, which part of the nervous system is responsible for receiving and transmitting signals from external stimuli?

A. Motor neurons

B. Effector muscle

C. Sensory neurons



D. Relay neurons

Q23 General Science

Refer to the two statements given below and select the correct option.

Statement A: Ethanoic acid reacts with sodium hydroxide to form sodium acetate and water.

Statement B: This reaction is neutralisation.

A. Both statements A and B are incorrect.

B. Statement A is correct but statement B is incorrect.

C. Both statements A and B are correct.



D. Statement A is incorrect but statement B is correct.

Q24 General Science

When a rocket is launched upward, the forces on it are _____.

A. Only gravitational

B. Unbalanced



C. Equal in all directions

D. Balanced

Q25 General Science

Which part in the ovule helps in guiding the pollen tube (carrying sperm nuclei) towards the female gamete?

A. Endosperm

B. Antipodal cells

C. Style

D. Synergids



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is formed by a chemical reaction?

- A. Air
- B. Brass
- C. Soil
- D. Water



Q2 General Science

In a v-t graph, if the slope keeps changing, it means:

- A. displacement is zero
- B. acceleration is uniform
- C. acceleration is non-uniform
- D. speed is constant



Q3 General Science

What is the difference in molecular mass between two successive members of a homologous series?

- A. 12u
- B. 16u
- C. 14u
- D. 18u



Q4 General Science

Power measures:

- A. the energy stored in an object
- B. how fast or slow work is done
- C. the height of an object
- D. the total work done



Q5 General Science

What is the name of the long, fibre-like part of a neuron that carries signals away from the cell body?

- A. Dendrite
- B. Synapse
- C. Nucleus
- D. Axon



Q6 General Science

What will happen if the dendrites of neurons do not function?

- A. Muscles will contract more strongly
- B. Neurons will produce more electrical impulses
- C. Signals from other neurons will not be received
- D. Signals will be transmitted faster



Q7 General Science

Which of the following conditions DOES NOT support an increase in the rate of evaporation?

- A. An increase in humidity
- B. An increase of temperature
- C. An increase in wind speed
- D. An increase of surface area



Q8 General Science

Which of the following is NOT correct?

- A. A 5D lens has focal length 20 m.
- B. The SI unit of power of lens is Dioptre (D).
- C. A 2D lens has focal length 0.5 m.
- D. 1 Dioptre = focal length of 1 m.



Q9 General Science

A stethoscope helps a doctor hear a patient's heartbeat clearly. Which principle does a stethoscope use for this purpose?

- A. Multiple reflection of sound
- B. Interference of sound
- C. Refraction of sound
- D. Diffraction of sound



Q10 General Science

Metallurgy is:

- A. heating sulphide ore in excess of air
- B. prevention of iron from corrosion
- C. removing gangue from ores
- D. extraction of metals in pure form from their ores



Q11 General Science

What happens to the particles in a suspension when the mixture is left undisturbed?

- A. The mixture is stable and does not require stirring.
- B. The mixture is clear and transparent.
- C. The particles settle down when left undisturbed. ✓
- D. The particles are dissolved in the solvent.

Q12 General Science

If the distance (d) between the Earth and the Moon decreases gradually, then what will happen to the gravitational force (F) between them?

- A. Decreases
- B. Increases ✓
- C. Remains constant
- D. First increases and then decreases

Q13 General Science

Which of the following gives H^+ ions in an aqueous solution?

- A. Sodium hydroxide
- B. Ammonium hydroxide
- C. Calcium hydroxide
- D. Hydrochloric acid ✓

Q14 General Science

Three resistors of $2\ \Omega$, $3\ \Omega$, and $6\ \Omega$ are connected in parallel. The equivalent resistance of the combination is:

- A. $6\ \Omega$
- B. $3\ \Omega$
- C. $1\ \Omega$ ✓
- D. $11\ \Omega$

Q15 General Science

Which of the following cause(s) movement in muscular tissue?

- A. Ligaments
- B. Enzymes
- C. Contractile proteins ✓
- D. Cartilage

Q16 General Science

The distance between the pole and the centre of curvature of a concave mirror is -50 cm . If the magnification produced is (-1) by this mirror, then what will be the object and the image distance, respectively?

- A. -50 cm and -50 cm ✓
- B. -50 cm and $+50\text{ cm}$
- C. $+50\text{ cm}$ and $+50\text{ cm}$
- D. $+50\text{ cm}$ and -50 cm

Q17 General Science

In plants, asexual reproduction involves _____.

- A. fusion and fertilisation
- B. fusion of male and female gametes
- C. both parent organisms
- D. only one parent organism ✓

Q18 General Science

Why is the female body specifically prepared every month for pregnancy?

- A. To improve blood circulation
- B. To remove waste products
- C. To nourish the potential embryo ✓
- D. To release more sperm

Q19 General Science

Which of the following plants reproduces by means of spores?

- A. Egg plant
- B. Moss ✓
- C. Gram
- D. Rose

Q20 General Science

Based on the concept of electrical resistance, how are conductors, resistors, and insulators primarily differentiated?

- A. By their ability to generate heat upon current flow
- B. By their chemical composition (e.g., metal vs. non-metal)
- C. By the ease or difficulty with which they allow the flow of electric charge ✓
- D. By their length and area of cross-section



Q21 General Science

Which of the following conditions is essential for chlorine to react rapidly with an alkane?

- A. High temperature
- B. Sunlight
- C. Presence of oxygen
- D. High pressure

**Q22 General Science**

When magnesium reacts with dilute hydrochloric acid, the products are:

- A. magnesium chloride and hydrogen
- B. magnesium chloride and oxygen
- C. magnesium hydroxide and hydrogen
- D. magnesium oxide and water

**Q23 General Science**

An athlete runs around a circular track with radius r , completing one full round in t seconds. Which of the following correctly represents the athlete's speed v ?

- A. $v = 2\pi r/t$
- B. $v = 2\pi r \times t$
- C. $v = t/2\pi r$
- D. $v = r/2\pi t$

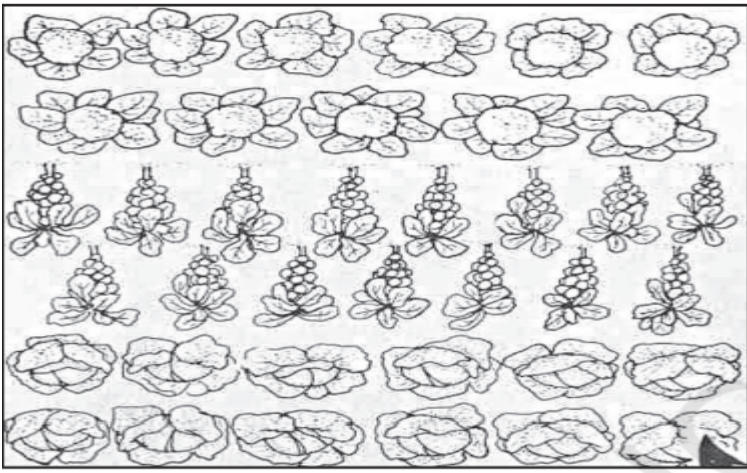
**Q24 General Science**

During photosynthesis, plants take in carbon dioxide and water in the presence of _____.

- A. oxygen and light
- B. glucose and water
- C. energy and starch
- D. sunlight and chlorophyll

**Q25 General Science**

Identify the cropping pattern in the given picture.



- A. Mixed cropping
- B. Terrace farming
- C. Inter cropping
- D. Crop rotation



General Science

25 Questions • Answer Key

Q1 General Science

If the radius of curvature of a convex mirror used for rear-view on an automobile is 4.00 m, what is its focal length?

- A. 4 m
- B. 8 m
- C. 1 m
- D. 2 m



Q2 General Science

Which of the following is an allotrope of carbon?

- A. Diamond
- B. Limestone
- C. Quartz
- D. Alum



Q3 General Science

Which of the following is the correct function of the Golgi body in a plant cell?

- A. Providing protection to the cell.
- B. Helping in the synthesis of proteins.
- C. Maintaining the shape of the cell.
- D. Supporting the formation of lysosomes.



Q4 General Science

Which of the following is true about infrasonic sound?

- A. Frequency > 20 kHz
- B. Cannot travel in air
- C. Frequency < 20 Hz
- D. Frequency between 20 Hz and 20 kHz



Q5 General Science

If you push a stationary wall with 80 N, the wall pushes you back with ____.

- A. 0 N
- B. 40 N
- C. 160 N
- D. 80 N



Q6 General Science

Which of the following statements is NOT correct about resistivity?

- A. It is measured in ohm-meter.
- B. It changes with temperature.
- C. It is a property of the material.
- D. It depends on the length of the wire.



Q7 General Science

A retarding force of 10 N acts on a body. The work done due to this force is -200 J. What will be the magnitude and direction of the displacement of the body under the action of this force?

- A. 20 m; opposite to the direction of the force
- B. 2000 m; in the same direction as the force
- C. 2000 m; opposite to the direction of the force
- D. 20 m; in the same direction as the force



Q8 General Science

Which event does NOT directly occur during photosynthesis in green plants?

- A. Breakdown of carbohydrates to release energy
- B. Conversion of light energy into chemical energy
- C. Reduction of carbon dioxide to carbohydrates
- D. Absorption of light energy by chlorophyll



Q9 General Science

A straight current carrying conductor has a magnetic field (B) associated with it. Which of the following is correct regarding the value of magnetic field (B)?

- (i) The magnetic field will increase as we move away from the conductor.
- (ii) The magnetic field will decrease as we move away from the conductor.
- (iii) The magnetic field will increase when the current flowing through the conductor increases.
- (iv) The magnetic field will first decrease when the current flowing through the conductor increases.

- A. Both (ii) and (iii)
- B. Both (i) and (ii)
- C. Both (iii) and (iv)
- D. Both (i) and (iv)



Q10 General Science

If the force on an object is doubled while its mass remains the same, the acceleration:

- A. remains the same
- B. becomes zero
- C. also doubles
- D. halves



Q11 General Science

Which of the following represents corrosion?

- A. Burning of LPG
- B. Dissolving sugar in water
- C. Boiling of water
- D. Rusting of iron



Q12 General Science

Which practice demonstrates judicious energy use at home?

- A. Overusing air-conditioners
- B. Heating an empty room continuously
- C. Keeping all appliances on standby mode
- D. Using bulbs or fluorescent tubes



Q13 General Science

Which metal reacts violently with cold water?

- A. Sodium
- B. Copper
- C. Magnesium
- D. Aluminium



Q14 General Science

What happens to the concentration of a solution if more solute is added to the same amount of solvent?

- A. It becomes a suspension
- B. It remains unchanged
- C. It becomes more concentrated
- D. It becomes less concentrated



Q15 General Science

Which of the following is correct for concave mirrors?

- A. They cannot produce magnified images.
- B. They are used as rear-view mirrors.
- C. They are used by dentists to see enlarged images of teeth.
- D. They always produce virtual images.



Q16 General Science

When salt solution is applied to boiled Rhoeo leaf peels, it fails to show plasmolysis due to:

- A. dead cells cannot osmoregulate
- B. walls block salts
- C. nuclei stop diffusion
- D. chlorophyll takes up water



Q17 General Science

Which of the following statements about variations is INCORRECT?

- A. Ensures species survival during disasters
- B. Provides resilience against diseases
- C. Variation makes species prone to extinction.
- D. Variation enables adaptation to changing environments.



Q18 General Science

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Insulin helps lower blood glucose levels.
Reason (R): Insulin converts glucose into glycogen for storage in the liver.

- A. A is false, but R is true.
- B. Both A and R are true, but R is not the correct explanation of A.
- C. Both A and R are true, and R is the correct explanation of A.
- D. A is true, but R is false.



Q19 General Science

Which of the following ensures that the DNA amount is NOT doubled in every generation?

- A. Reduction of DNA in gametes
- B. Division of neurons
- C. Division of body cells
- D. Consistency of DNA in gametes



Q20 General Science

Which of the following pairs represent the Isobar?

- A. 235U92 and 238U92
- B. 15O8 and 16O8
- C. 40K19 and 40Ar18
- D. 15N7 and 16O8

**Q21 General Science**

Which of the following is a characteristic reaction of saturated hydrocarbons (alkanes)?

- A. Polymerisation
- B. Addition reaction
- C. Substitution reaction
- D. Neutralisation

**Q22 General Science**

What is a decomposition reaction?

- A. A compound breaks down into two or more simpler substances
- B. Two compounds exchange ions
- C. Two or more substances combine to form one product
- D. A single substance is formed from two or more reactants

**Q25 General Science**

A ball is dropped from a height of 10 m from the surface of the earth. What will be the speed with which the ball will strike the ground?

(Take $g = 10 \text{ m/s}^2$)

- A. 20 m/s
- B. 10 m/s
- C. $10\sqrt{2} \text{ m/s}$
- D. 200 m/s

**Q23 General Science**

The process by which the developing embryo gets associated with the lining of the uterus is called _____.

- A. abortion
- B. fertilisation
- C. implantation
- D. embryogenesis

**Q24 General Science**

Which of the following best defines the concentration of a solution?

- A. The amount of solution present in a given amount of solute
- B. The amount of solvent present in a given amount of solution
- C. The amount of solute present in a given amount of solution
- D. The amount of solvent present in a given amount of solute



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following statements is/are correct regarding vegetative propagation?

Statement A: Root, stem and leaves develop into new plants under appropriate conditions.

Statement B: Vegetative propagation is used in sugarcane, roses and grapes.

- A. Only Statement B
- B. Neither Statement A nor B
- C. Only Statement A
- D. Both Statement A and B



Q2 General Science

What type of force is responsible for the Moon's circular motion around Earth?

- A. Normal Force
- B. Centrifugal Force
- C. Centripetal Force due to Earth's gravity
- D. Electromagnetic Force



Q3 General Science

The smooth endoplasmic reticulum (SER) helps in the manufacture of _____.

- A. lipids (fats)
- B. starch
- C. DNA
- D. proteins



Q4 General Science

What colour does phenolphthalein turn to in a basic solution?

- A. Red
- B. Yellow
- C. Colourless
- D. Pink



Q5 General Science

Phosphoric acid (H_3PO_4) is composed of which of the following ions?

- A. H^+ , PO_4^{3-}
- B. H^+ , PO_4^{4-}
- C. H^+ , PO_4^{2-}
- D. H_2^+ , PO_4^{3-}



Q6 General Science

Which of the following plant nutrients is supplied from air?

- A. Carbon
- B. Iron
- C. Nitrogen
- D. Hydrogen



Q7 General Science

Impurities are converted to compounds by adding refining agents in which type of refining method?

- A. Ionic method
- B. Chemical method
- C. Physical method
- D. Electro-chemical method



Q8 General Science

Two resistors of $2\ \Omega$ and $X\ \Omega$ are connected in series to a 10 V battery. If the current flowing through the resistors is 2 A, then what will be the value of X (in Ohm)?

- A. $1/2$
- B. 2
- C. $1/3$
- D. 3



Q9 General Science

The direction of the magnetic field at the centre of a current-carrying circular loop is determined by which of the following?

- A. Lenz's Law
- B. Fleming's Left-Hand Rule
- C. Right-Hand Thumb Rule
- D. Fleming's Right-Hand Rule



Q10 General Science

What conclusion can be drawn from the microscopic observation of onion peel cells?

- A. All onions are made up of similar small structures called cells ✓
- B. The size of the onion decides the shape of its individual cells
- C. Each onion peel contains cells of different composition
- D. Onion bulbs contain different cell types for different functions

Q11 General Science

If a piece of aluminium is added to iron(II) sulphate (FeSO_4) solution, what will happen?

- A. Iron will get deposited. ✓
- B. Blue solution will be formed.
- C. There will be no reaction.
- D. Aluminium will get deposited.

Q12 General Science

What happens when acid is dissolved in water?

- A. It forms salt.
- B. It releases H^+ ions. ✓
- C. It loses its acidic properties.
- D. It releases OH^- ions.

Q13 General Science

Balance the following reaction:



- A. $x = 2, y = 4$
- B. $x = 4, y = 2$ ✓
- C. $x = 3, y = 2$
- D. $x = 4, y = 4$

Q14 General Science

What is the primary mechanism through which sexual reproduction generates genetic diversity in the offspring?

- A. Frequent cell divisions during gamete formation
- B. Variation in chromosome number among the gametes
- C. Inaccuracies in DNA copying during gamete formation in maternal and paternal parents
- D. Random distribution of maternal or paternal chromosomes from each chromosome pair to the gametes ✓

Q15 General Science

Which of the following scenarios can disturb a food web the most?

- A. Seasonal change in rainfall
- B. Change in wind direction
- C. Sudden removal of a key species ✓
- D. Increase in sunlight hours

Q16 General Science

The work done in carrying a block of mass 30 kg to a height of 'X' m is 6000 J. What will be the value of X (in m)? (Take the value of $g = 10 \text{ m/s}^2$)

- A. 200
- B. 20 ✓
- C. 1800
- D. 1,80,000

Q17 General Science

Which of the following sounds has the lowest pitch?

- A. A bird's chirp (1500 Hz)
- B. A tuning fork (512 Hz)
- C. A child's voice (350 Hz)
- D. A man's deep voice (100 Hz) ✓

Q18 General Science

How many contrasting characters were used by Mendel to formulate the laws of inheritance?

- A. 5
- B. 8
- C. 4
- D. 7 ✓

Q19 General Science

The molecular mass of carbon dioxide is:

- A. 44 amu ✓
- B. 32 amu
- C. 50 amu
- D. 28 amu



Q20 General Science

If the speed of an object changes with time, the distance–time graph will be:

- A. A straight line parallel to the time axis
- B. A straight line inclined to the time axis
- C. A horizontal straight line
- D. A curved line

**Q21 General Science**

Which of the following is NOT the correct use of a concave mirror?

- A. It is used as a rear view mirror in automobiles.
- B. It is used as a shaving mirror.
- C. It is used in torches.
- D. It is used in a solar furnace.

**Q22 General Science**

Which connective tissue smoothens bone surfaces at joints and is present in the ear and trachea?

- A. Areolar
- B. Adipose
- C. Ligament
- D. Cartilage

**Q23 General Science**

An object moves along a straight path for 5 s. Its initial velocity is 10 m s^{-1} and its final velocity is -2 m s^{-1} . What is the magnitude of the average velocity?

- A. 8 m/s
- B. 6 m/s
- C. 4 m/s
- D. 5 m/s

**Q24 General Science**

Which of the following causes a change in the state of matter?

- A. Mixing it with another substance
- B. Dissolving the substance
- C. Changing temperature or pressure
- D. Cutting the substance

**Q25 General Science**

The image formed by a concave lens for an object at infinity is:

- A. real, inverted, and large
- B. real, erect, and magnified
- C. virtual, inverted, and diminished
- D. virtual, erect, and point-sized



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following equations does NOT correctly represent the relationship between physical quantities for an object moving with uniform acceleration?

A. $v^2 - u^2 = 2as$

B. $s = ut + \frac{1}{2}at^2$

C. $2as = v^2 + u^2$ ✓

D. $v = u + at$

Q2 General Science

If the surface area increases for the same thrust (force), then the pressure on the surface ____.

A. becomes zero

B. remains the same

C. increases

D. decreases ✓

Q3 General Science

A single-turn coil of radius R produces a magnetic field B at its centre. If the same wire is wound into a coil of n turns (each of radius R/n) carrying the same current I, what will be the value of the new field at the centre?

A. n B

B. B/n

C. B

D. n²B ✓

Q4 General Science

What is the primary chemistry behind a displacement reaction?

A. One element displaces another from a compound ✓

B. Two reactants combine to generate one product

C. Compounds disintegrate into two or more components

D. Ion exchange occurs between two substances

Q5 General Science

What type of ions exchange between reactants in a double displacement reaction?

A. Negative - negative ions

B. Positive - positive ions

C. Both positive - positive ions and negative - negative ions

D. Positive - negative ions ✓

Q6 General Science

The power of a lens is given as the reciprocal of its:

A. Focal length (in metres) ✓

B. Diameter

C. Radius

D. Thickness

Q7 General Science

What defines two elements as isobars?

A. Same mass number but different atomic numbers ✓

B. Same number of electrons

C. Same number of neutrons

D. Same atomic number

Q8 General Science

Which of the following cell organelles have cisterns and is involved in the formation of lysosomes?

A. Golgi apparatus ✓

B. Leucoplast

C. Chromoplast

D. Mitochondria

Q9 General Science

Which of the following carbon compounds shows the presence of a branched chain structure?

A. Ethane (C₂H₆)B. Methane (CH₄)C. Cyclohexane (C₆H₁₂)D. Butane (C₄H₁₀) ✓

Q10 General Science

The parenchyma cells in plants are:

- A. living and loosely arranged with intercellular spaces** ✓
- B. dead and compactly arranged without spaces
- C. dead and elongated with lignified walls
- D. living and thickened at corners without spaces

Q11 General Science

A block of mass 1 kg is dropped from the top of a building of height X m. What will be the value of X if the block hits the ground with a velocity of 20 m/s?

(Take the value of $g = 10 \text{ m/s}^2$)

- A. 20 m** ✓
- B. 0.2 m
- C. 200 m
- D. 2 m

Q12 General Science

Soap molecules arrange themselves in which form to perform cleaning action?

- A. Crystal
- B. Colloid
- C. Micelles** ✓
- D. Precipitation

Q13 General Science

How do plants excrete their waste products?

- A. By storing them in vacuoles or excreting through falling leaves and resins** ✓
- B. By converting all wastes into oxygen and carbon dioxide
- C. By removing wastes directly through root hairs only
- D. By releasing them through special excretory organs called nephrons

Q14 General Science

Why does the amount of DNA NOT keep doubling during sexual reproduction in animals?

- A. Because both gametes get halved after fertilisation to form the zygote
- B. Because both gametes get doubled before fertilisation to form the zygote
- C. Because both gametes get doubled after fertilisation to form the zygote
- D. Because both gametes get halved before fertilisation to form the zygote** ✓

Q15 General Science

If a body's velocity changes from +20 m/s to -10 m/s in 4 seconds, the acceleration is _____.

- A. + 7.5 m/s²
- B. - 5.0 m/s²
- C. - 7.5 m/s²** ✓
- D. + 5.0 m/s²

Q16 General Science

Atoms of different elements with different _____ numbers but the same _____ number are known as isobars.

- A. atomic, atomic
- B. mass, mass
- C. mass, atomic
- D. atomic, mass** ✓

Q17 General Science

What is the key realization that can lead to more sustainable use of natural resources?

- A. Only future generations must benefit from resources
- B. Selfish exploitation causes environmental harm and misery** ✓
- C. Rules alone can ensure conservation
- D. Unlimited growth is always beneficial

Q18 General Science

Which animal is known to communicate using infrasound?

- A. Bat
- B. Rhinoceros** ✓
- C. Dolphin
- D. Rat



Q19 General Science

Which of the following methods ensures prevention of transmission of sexually transmitted diseases during sexual intercourse?

- A. Using oral pills
- B. Tubectomy
- C. Vasectomy
- D. Using condoms

**Q20 General Science**

The magnification of a concave mirror is -1 . Which of the following statements is correct about the position of the object?

- A. Object is at the centre of curvature
- B. Object is beyond the centre of curvature
- C. Object is at focus
- D. Object is between focus and pole

**Q21 General Science**

The resistance of a conductor depends on the:

- A. Voltage applied across the conductor
- B. Length and area of cross-section only
- C. Current flowing through it
- D. Length, area of cross-section, material of the conductor, and temperature

**Q22 General Science**

A sample of brass is melted and poured into a mold to make a musical instrument. Which of the following correctly explains why brass is classified as a homogeneous mixture?

- A. The components of brass are chemically bonded and cannot be separated
- B. Brass is made of only one type of atom and hence appears uniform
- C. The components of brass are uniformly distributed and cannot be distinguished visually
- D. Brass is an example of a compound formed by the reaction of zinc and copper

**Q23 General Science**

Which of the following options best describes a component of a flower's reproductive system?

- A. Pollen is created in the ovule.
- B. Stamen includes both anther and filament.
- C. Pistil functions as the male part.
- D. Ovary is located in the stamen.

**Q24 General Science**

In electrolytic refining, the pure metal is used as:

- A. a cathode
- B. an electrolyte
- C. an anode
- D. sulphur

**Q25 General Science**

In a reflex arc, which of the following represents the correct path of the impulse?

- A. Receptor → Spinal cord → Brain → Muscle
- B. Receptor → Brain → Spinal cord → Muscle
- C. Receptor → Motor neuron → Spinal cord → Muscle
- D. Receptor → Spinal cord → Motor neuron → Muscle



General Science

25 Questions • Answer Key

Q1 General Science

Consider the following statements and select the correct option.

Statement A: Washing soda is obtained by heating baking soda strongly.

Statement B: It is used in glass, soap and paper industries.

A. Statement A is incorrect but B is correct. ✓

B. Both statements A and B are correct.

C. Statement A is correct but B is incorrect.

D. Both statements A and B are incorrect.

Q2 General Science

Testes are located outside the abdominal cavity, called _____.

A. Penis

B. Ureter

C. Scrotum ✓

D. Bladder

Q3 General Science

The symbol of an element represents which of the following?

A. One mole of the element

B. Atomic number and mass number

C. The full name of the element

D. One atom of the element only ✓

Q4 General Science

Which of the following contraceptive devices is placed in the uterus to prevent pregnancy?

A. Hormonal patch

B. Oral pills

C. Condom

D. Copper-T ✓

Q5 General Science

In a schematic electric circuit diagram, how is a voltmeter typically represented when connected to measure potential difference?

A. A circle with an 'A' inside, connected in series

B. A circle with a 'V' inside, connected in parallel ✓

C. A square with a 'V' inside, connected in parallel

D. A rectangle with an 'R' inside, connected in series

Q6 General Science

The magnetic field is strongest:

A. equidistant from the conductor

B. outside a solenoid

C. near the conductor ✓

D. far from the conductor

Q7 General Science

The gravitational force between the Earth and a body of mass 'm' kg is 'F' N. What will be the gravitational force between the body and the Earth if the mass of the body is increased to '4m' kg? (Keep all the other parameters the same)

A. $F/2$ N

B. $F/4$ N

C. F N

D. $4F$ N ✓

Q8 General Science

Which two physical properties allow metals to be drawn into thin wires and beaten into thin sheets, respectively?

A. Ductility and malleability ✓

B. Lustre and hardness

C. Sonorous and conductivity

D. High melting point and solid state



Q9 General Science

Which of the following gives the correct relation between the work done (W) in terms of force (F) acting on the body and the displacement (S) of the body in the same direction as the force?

A. $W = F/S$

B. $W = F \times S$ ✓

C. $W = F - S$

D. $W = F + S$

Q10 General Science

A force (F) of 60 N acts on a mass (m) of 6 kg. What will be the acceleration (a) produced by this force?

A. 360.0 m/s²

B. 0.10 m/s²

C. 6.0 m/s²

D. 10.0 m/s² ✓

Q11 General Science

What is the primary function of the kidneys in human beings?

A. To transport glucose and hormones throughout the body

B. To absorb oxygen and release carbon dioxide

C. To regulate digestion and nutrient absorption

D. To filter nitrogenous waste materials from the blood ✓

Q12 General Science

According to Newton's Third Law of Motion, which of the following statements is true?

A. Action and reaction are unequal and act on the same body.

B. Action and reaction act on the same body and are equal in magnitude.

C. Action and reaction cancel each other out because they act on one body.

D. Action and reaction are equal and opposite but act on two different bodies. ✓

Q13 General Science

Quickly pulling a hand back on touching a hot object is an example of _____.

A. Reflex action ✓

B. Hormonal action

C. Thinking action

D. Conditioned action

Q14 General Science

Name the scientist who defined elements as substances that CANNOT be broken down into simpler form by chemical reactions.

A. Robert Hookie

B. Antoine Laurent Lavoisier ✓

C. Charles Darwin

D. Robert boyle

Q15 General Science

Which of the following is a colloidal solution?

A. Sugar Solution

B. Salt Water

C. Milk ✓

D. Sand in Water

Q16 General Science

Carbohydrates produced in photosynthesis but not immediately used are stored as _____ in plants.

A. glucose

B. starch ✓

C. cellulose

D. protein

Q17 General Science

Rear-view mirrors of vehicles are usually _____.

A. concave mirrors

B. convex mirrors ✓

C. plane mirrors

D. parabolic mirrors

Q18 General Science

Which of the following enzymes is present in saliva?

A. No enzyme

B. Salivary Amylase ✓

C. Salivary Lipase

D. Salivary Protease



Q19 General Science

Which of the following is detected by gustatory receptors in our body?

- A. Light
- B. Sound
- C. Smell
- D. Taste



Q20 General Science

Which of the following is NOT a function of the stigma in the Hibiscus flower?

- A. Providing a sticky surface
- B. Receiving pollen grains
- C. Producing male germ cells
- D. Facilitating pollen tube growth



Q21 General Science

Which of the following statements about sound propagation is true?

- A. Sound can travel in a vacuum.
- B. Sound travels at the same speed in all mediums.
- C. Sound is the fastest in gases, slower in liquids and the slowest in solids.
- D. Sound is the fastest in solids, slower in liquids and the slowest in gases.



Q22 General Science

What type of chemical bond is typically formed when a metal reacts with a non-metal?

- A. Hydrogen bond
- B. Metallic bond
- C. Ionic bond
- D. Covalent bond



Q23 General Science

The twinkling of stars is more pronounced when _____.

- A. the star is near the horizon
- B. the moon is bright
- C. the sky is cloudy
- D. the star is at the zenith



Q24 General Science

What gas is typically released when ethanoic acid reacts with sodium carbonate?

- A. Methane gas
- B. Carbon dioxide gas
- C. Oxygen gas
- D. Hydrogen gas



Q25 General Science

Which of the following is the correct sequence in extraction of metals from ore?

- A. Refining → Concentration → Reduction
- B. Concentration → Electrolysis → Roasting
- C. Concentration → Reduction → Refining
- D. Reduction → Refining → Concentration



General Science

25 Questions • Answer Key

Q1 General Science

Based on the accepted values for the masses of the Earth and the Moon and the distance between them, what is the calculated gravitational force exerted by the Earth on the Moon?

A. 2.02×10^{20} NB. 7.4×10^{22} NC. 6.67×10^{-11} N

D. 9.8 N

Q2 General Science

Meenu starts from rest and pedals her bicycle to reach a speed of 5 m/s in 25 seconds. What is her acceleration?

A. 0.3 m/s²B. 0.2 m/s²C. 0.1 m/s²D. 0.4 m/s²

Q3 General Science

Which of the following nutrients is a macronutrient?

A. Potassium



B. Copper

C. Iron

D. Zinc

Q4 General Science

A wire of a given material has length L and cross-sectional area A , with resistance R . If the wire is stretched to twice its length while keeping the volume constant, what will be its new resistance?

A. $4R$ B. $2R$ C. $R/2$

D. ZERO

Q5 General Science

Which statement is INCORRECT about contraceptive pills?

A. They contain synthetic hormones (estrogen and progesterone) that prevent ovulation,

B. They are a highly effective form of birth control when taken correctly.

C. They protect against sexually transmitted infections.



D. They can cause side effects like irregular bleeding or nausea in some users.

Q6 General Science

Which of the following statements about sound propagation is correct?

A. Sound travels faster in gases than in solids.

B. Sound travels in the form of transverse waves in air.

C. Sound can travel in vacuum.

D. Sound requires a medium for propagation.



Q7 General Science

If a constant force (F) of 20 N moves an object through a displacement (d) of 5 m in the same direction, then what will be the work (W) done?

A. 200 J

B. 25 J

C. 100 J



D. 50 J

Q8 General Science

Select the correct option regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): If a substance loses oxygen during a reaction, it is said to be reduced.

Reason (R): Reduction is defined as the gain of hydrogen or loss of oxygen.

A. Both A and R are true, and R is the correct explanation of A.



B. Both A and R are true, and R is not the correct explanation of A.

C. A is true, but R is false.

D. A is false, but R is true.



Q9 General Science

What happens during the oxidation of ethanol?

- A. It forms an ester.
- B. It is converted into methane.
- C. It is converted into ethanoic acid. ✓
- D. It is converted into ethene.

Q10 General Science

Which of the following is NOT correct?

- A. Shorter wavelengths scatter more than longer wavelengths.
- B. The Tyndall effect can be used to detect colloids.
- C. Scattering depends on the wavelength of light.
- D. The sky appears blue because air absorbs blue light. ✓

Q11 General Science

What happens to metabolic activities in the absence of thyroxine?

- A. They only affect digestion
- B. They stop completely
- C. They slow down or become imbalanced ✓
- D. They speed up uncontrollably

Q12 General Science

Which of the following shows movement but not locomotion?

- A. Human
- B. Plant ✓
- C. Bird
- D. Dog

Q13 General Science

Which of the following statements correctly defines the atomic number of an element?

- A. The number of protons in the nucleus of an atom ✓
- B. The total number of protons and neutrons in the nucleus
- C. The number of neutrons in the nucleus of an atom
- D. The number of electrons in the outermost shell of an atom

Q14 General Science

Which statement is NOT true about smooth muscles?

- A. They are uninucleate
- B. They control involuntary movements
- C. They are spindle-shaped cells
- D. They have striations ✓

Q15 General Science

One volt (1 V), the SI unit of potential difference, is defined when _____.

- A. 1 joule of energy is dissipated in 1 second
- B. 1 coulomb of charge flows in 1 second
- C. 1 joule of work is done to move a charge of 1 coulomb ✓
- D. 1 milliamper of current flows through 1 Ohm of resistance

Q16 General Science

Which hormone triggers sexual maturation in boys?

- A. Estrogen
- B. Oxytocin
- C. Testosterone ✓
- D. Progesterone

Q17 General Science

Which of the following metals reacts with dilute hydrochloric acid to produce hydrogen gas?

- A. Silver
- B. Zinc ✓
- C. Gold
- D. Copper

Q18 General Science

If the temperature of a gas is increased at constant volume, what happens to the pressure?

- A. It decreases.
- B. It cannot be determined.
- C. It increases. ✓
- D. It remains the same.



Q19 General Science

Which of the following is NOT an example of Newton's Third Law?

- A. A stone dropping freely toward the ground** ✓
- B. A gun moving backward after firing a bullet
- C. A horse pulling a loaded cart
- D. A rocket rising upward as gases are expelled downward

Q20 General Science

The defect of hypermetropia can be corrected by using which of the following?

- A. Prism
- B. Convex lens** ✓
- C. Concave lens
- D. Cylindrical lens

Q21 General Science

Which of the following statements correctly explains why carbon forms covalent bonds in organic compounds?

- A. Carbon has a high tendency to form positive ions
- B. Carbon atoms have a full outer shell and do not react
- C. Carbon easily donates all its valence electrons to non-metals
- D. Carbon has four electrons in its outer shell and shares electrons to complete its octet** ✓

Q22 General Science

Which of the following describe(s) the versatile nature of carbon?

- a. The ability to form bonds with other carbon atoms giving rise to large molecules.
- b. The ability to form double bonds with other carbon atoms.
- c. The ability to form bonds with other atoms like oxygen, nitrogen, sulphur, hydrogen etc.

- A. Only a
- B. Only a and c
- C. All a, b and c** ✓
- D. Only b and c

Q23 General Science

When fertilisation takes place inside the female body, it is called _____.

- A. test-tube babies
- B. in vitro fertilisation
- C. internal fertilisation** ✓
- D. external fertilisation

Q24 General Science

Which of the following plant tissues is made up of cells that are dead at maturity?

- A. Sclerenchyma** ✓
- B. Aerenchyma
- C. Collenchyma
- D. Parenchyma

Q25 General Science

Which of the following statements best defines the term 'formula unit mass'?

- A. The sum of atomic masses of all atoms in a molecule
- B. The mass of one mole of a compound
- C. The mass of an individual atom of an element
- D. The sum of the atomic masses of the ions in an ionic compound as represented by its formula** ✓



General Science

25 Questions • Answer Key

Q1 General Science

The image formed by a concave mirror of focal length 20 cm is real, inverted, and enlarged in size as compared to the size of the object. Which of the following is true about the position of the object?

- A. The object is placed between 20 cm and 40 cm from the pole of the mirror. ☒
- B. The object is placed at 10 cm from the pole of the mirror.
- C. The object is placed at 20 cm from the pole of the mirror.
- D. The object is placed at 40 cm from the pole of the mirror.

Q2 General Science

A ship floats on water because:

- A. the surface tension holds it afloat
- B. the density of water is greater than that of the ship material
- C. the atmospheric pressure supports the ship
- D. the weight of water displaced equals the weight of the ship ☒

Q3 General Science

What is the main goal of crop variety improvement?

- A. To grow only ornamental plants
- B. To reduce the number of crops grown
- C. To develop crops with better yield and useful traits ☒
- D. To increase water content in soil

Q4 General Science

Which of the following best explains the liquefaction of gases under high pressure?

- A. Gases expand indefinitely, so pressure has no effect
- B. Higher pressure reduces the space between particles, leading to liquefaction ☒
- C. Increased molecular size leads to condensation
- D. Higher pressure increases temperature, leading to phase change

Q5 General Science

According to Joule's law of heating, if the current flowing through a resistor is doubled while resistance and time remain constant, then the heat produced (H) will increase by a factor of _____.

- A. two
- B. eight
- C. sixteen
- D. four ☒

Q6 General Science

What colour does copper turn when it undergoes corrosion over time?

- A. Red
- B. Grey
- C. Green ☒
- D. White

Q7 General Science

Which of the following is a compound?

- A. Salt (NaCl) ☒
- B. Lemon juice
- C. Soil
- D. Air

Q8 General Science

Which of the following statements is NOT correct about linear velocity?

- A. Linear velocity is constant for uniform motion.
- B. Linear velocity depends on displacement and time.
- C. It is the rate of change of displacement.
- D. The SI unit of linear velocity is m/s^2 . ☒

Q9 General Science

Which compound from the following is an unsaturated hydrocarbon?

- A. Methane
- B. Ethene ☒
- C. Butane
- D. Propane



Q10 General Science

Why do aquatic organisms breathe faster than terrestrial organisms?

- A. Because water exerts less resistance on breathing organs
- B. Because diffusion of oxygen in water is faster than in air
- C. Because they absorb oxygen directly from sunlight through gills
- D. Because the amount of dissolved oxygen in water is very low ✓

Q11 General Science

The _____ helps in the movement of mucus along the lining of the respiratory tract.

- A. simple squamous epithelium
- B. ciliated columnar epithelium ✓
- C. stratified squamous epithelium
- D. cuboidal epithelium

Q12 General Science

A patient is unable to move his left hand, but brain scans show no damage. Which part of the nervous system is most likely to be affected?

- A. Autonomic nervous system
- B. Peripheral nervous system ✓
- C. Central nervous system
- D. Parasympathetic nervous system

Q13 General Science

Which of the following is an example of uniform circular motion?

- A. A train moving on a straight track
- B. A car moving on a straight road
- C. A stone dropped from a height
- D. The Moon revolving around the Earth ✓

Q14 General Science

What is the role of sulphuric acid in the anodising process of aluminium?

- A. It dissolves aluminium completely.
- B. It acts as an electrolyte to help form a thicker oxide layer. ✓
- C. It prevents oxidation of aluminium.
- D. It reacts with aluminium to form aluminium chloride.

Q15 General Science

Which of the following techniques is used for vegetative propagation in plants?

- A. Cutting ✓
- B. Fertilisation
- C. Pollination
- D. Seed dispersal

Q16 General Science

Cyclohexane is best classified as which type of organic compound?

- A. A saturated alicyclic compound composed of six carbon atoms in a ring ✓
- B. A branched hydrocarbon with one or more unsaturated carbon bonds
- C. An aromatic compound containing a delocalised π -electron ring system
- D. An organic aldehyde consisting of a linear chain of six carbon atoms

Q17 General Science

A force of 7 N acts on an object and displaces it through 8 m in the direction of the force. What is the work done in this case?

- A. 56 J ✓
- B. 15 Nm
- C. 56 N
- D. 7 J

Q18 General Science

What is the formula unit mass of ZnO (zinc oxide)?

- A. 97 u
- B. 65 u
- C. 81 u ✓
- D. 16 u

Q19 General Science

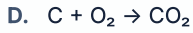
If two resistors are connected in series, then which of the following statements is correct regarding the equivalent resistance of the circuit?

- A. It will increase at first and then will decrease.
- B. It will increase. ✓
- C. It will decrease.
- D. It will remain same.



Q20 General Science

In which of the following reactions do two compounds combine to form a new compound?

**Q21 General Science**

What is the correct path of the egg in the female reproductive system?

A. Uterus → Ovary → Fallopian tube

B. Fallopian tube → Ovary → Uterus

C. Ovary → Fallopian tube → Uterus



D. Ovary → Vagina → Uterus

Q22 General Science

Sounds of single frequency and mixture of several frequencies are known as _____, respectively.

A. noise and tone

B. note and tone

C. tone and note



D. tone and noise

Q25 General Science

If an object is placed at the centre of curvature (C) of a concave mirror, then what is the value of the magnification (m)?

A. $m = -1$



B. $m < -1$

C. $m = +1$

D. $m = 0$

Q23 General Science

Which of the following describes reproduction involving only one parent and no gametes?

A. Internal fertilisation in mammals

B. Fertilisation in frogs

C. Seed formation in flowering plants

D. Binary fission in Amoeba

**Q24 General Science**

Which of the following structures are made up of nervous tissue?

A. Kidneys and liver

B. Lungs and heart

C. Bones and muscles

D. Brain, spinal cord and nerves



General Science

25 Questions · Answer Key

Q1 General Science

Which of the following is true for saturated hydrocarbons?

- A. They have only a single bond between carbon-carbon atoms. ✓
- B. They have at least one double bond between carbon-carbon atoms.
- C. They can have either double and triple bond between carbon-carbon atoms.
- D. They have at least one triple bond between carbon-carbon atoms.

Q2 General Science

Which of the following statements about phloem is correct?

- A. Phloem is made entirely of dead cells.
- B. Phloem transports water upward only.
- C. Phloem transports minerals from roots to leaves.
- D. Phloem transports food from leaves to other parts. ✓

Q3 General Science

Which of the following is NOT an outcome of fertilisation?

- A. Embryo formation
- B. Placenta formation
- C. Egg formation ✓
- D. Zygote formation

Q4 General Science

Which statement about parallel connection of resistors is true?

- A. The total current is the sum of the currents through individual resistors. ✓
- B. Each resistor carries the same current regardless of its resistance.
- C. The total current is the same as current through any branch.
- D. The total resistance increases when more resistors are added.

Q5 General Science

What happens to particles on heating a solid?

- A. They stop interacting completely.
- B. They freeze and become static.
- C. They break into other elements.
- D. They vibrate with more energy. ✓

Q6 General Science

Some organisms show binary fission by division in any plane but some shows division in a definite orientation. Which of the following shows definite orientation of binary fission?

- A. Leishmania ✓
- B. Paramecium
- C. Amoeba
- D. Plasmodium

Q7 General Science

According to Bohr, electrons revolve:

- A. in elliptical orbits randomly
- B. in fixed circular orbits called shells ✓
- C. only when energy is absorbed
- D. inside the nucleus of an atom

Q8 General Science

An object is placed anywhere along the principal axis of a concave lens. The image is always formed _____.

- A. at the focus (F)
- B. beyond twice the focal length (2F)
- C. between the focus (F) and the optical centre (O) ✓
- D. at twice the focal length (2F)

Q9 General Science

Which of the following is NOT an olfactory indicator?

- A. Onion
- B. Turmeric ✓
- C. Vanilla extract
- D. Clove oil



Q10 General Science

2-methylpropane has the same molecular formula as that of which of the following?

- A. Pentane
- B. Butane
- C. Butene
- D. Pentene

**Q11 General Science**

A wooden block weighs 49 N (thrust). If this block is placed on a table with a contact area of 0.02 m^2 , what is the resulting pressure exerted on the table?

- A. 2450 Nm^{-2}
- B. 980 Nm^{-2}
- C. 612.5 Nm^{-2}
- D. 49 Pa

**Q12 General Science**

Which of the following generally forms the longest part of a neuron?

- A. Axon
- B. Nerve ending
- C. Synapse
- D. Cell body

**Q13 General Science**

The 'p' in pH stands for _____ and it is used for measuring _____ concentration.

- A. Potential; hydroxide ion
- B. Potenz; hydroxide ion
- C. Potenz; hydrogen ion
- D. Potential; hydrogen ion

**Q14 General Science**

Which of the following pairs of frequency and time period is correctly related?

- A. 5 Hz and 5 s
- B. 1 Hz and 2 s
- C. 10 Hz and 0.1 s
- D. 2 Hz and 0.2 s

**Q15 General Science**

What can be the consequences of improper storage of grains?

- A. Stronger grains
- B. More fragrance
- C. Pest attack and spoilage
- D. Better nutrition

**Q16 General Science**

Which type of muscle is voluntary and shows light and dark bands?

- A. Striated muscle
- B. Unstriated muscle
- C. Cardiac muscle
- D. Smooth muscle

**Q17 General Science**

A convex lens forms a real image of an object placed at a distance of 30 cm from it. If the image is formed at 60 cm on the other side of the lens, the focal length of the lens is:

- A. 30 cm
- B. 10 cm
- C. 15 cm
- D. 20 cm

**Q18 General Science**

Which of the following is NOT a type of connective tissue?

- A. Bone
- B. Epithelium
- C. Cartilage
- D. Blood

**Q19 General Science**

A potential difference of V volt is applied across a resistor of $R \Omega$, then a current of I ampere flows through it. Keeping the resistance the same, how should the value of potential difference be changed so that the current flowing through the resistance gets doubled? (Keep all the other parameters the same.)

- A. $V/4$ volts
- B. V volts
- C. 2V volts
- D. $V/2$ volts



Q20 General Science

If the applied force is quadrupled, how must the acceleration of the object change, assuming its mass remains constant?

- A. The acceleration increases by a factor of 2.
- B. The acceleration remains the same, but the duration of the change decreases.
- C. The acceleration increases by a factor of 4.**
- D. The acceleration decreases by a factor of 4.

Q21 General Science

A body undergoes a displacement of 10 m under the action of a constant force of 2.5 N, in the opposite direction to the direction of force. What will be the work done under the action of this force?

- A. +2.5 J
- B. -2.5 J
- C. +25 J
- D. -25 J**

Q22 General Science

Match the following columns on Apparatus and Purpose.

Column A	Column B
A. Litmus paper	1. To detect acidic or basic nature
B. Watch-glass	2. To place drops of test solutions
C. Test tube	3. To hold and mix solutions safely
D. Indicator solution	4. Shows colour change to identify acid or base

- A. A-3; B-4; C-1; D-2
- B. A-2; B-3; C-4; D-1
- C. A-4; B-1; C-2; D-3
- D. A-1; B-2; C-3; D-4**

Q23 General Science

What is the immediate result of the fusion between the male and female germ cells in plants?

- A. Pollen tube
- B. Zygote**
- C. Ovule
- D. Seed coat

Q24 General Science

Select the correct statement about the properties of colloid.

- A. The components of a colloid solution are not dispersed phase.
- B. Dispersing medium is the component in which its phase is suspended.**
- C. A colloid is a homogeneous mixture.
- D. They can be separated from the mixture by the process of filtration.

Q25 General Science

If a car moves 100 m in 5 seconds, its linear velocity is:

- A. 15 m/s
- B. 25 m/s
- C. 10 m/s
- D. 20 m/s**



General Science

25 Questions • Answer Key

Q1 General Science

In a Closed System, if 15 gm of substance A reacts with 10 gm of substance B, the total mass of the products should be

- A. 0 gm
- B. 25 gm
- C. 10 gm
- D. 15 gm

Q2 General Science

The measurable quantity 'Density' may be represented in the SI unit of:

- A. kilograms per square metre
- B. kilograms per cubic metre
- C. kilograms per metre
- D. grams per metre

Q3 General Science

How are the metals in the middle of the activity series usually extracted?

- A. By heating alone
- B. By dissolving in water
- C. By reduction using carbon
- D. By electrolysis

Q4 General Science

Which of the following statements is correct?

- A. High pitch means low frequency.
- B. Pitch has no relation with frequency.
- C. High pitch means high frequency.
- D. Low pitch means high frequency.

Q5 General Science

What is the formula unit mass of sodium chloride (NaCl)?

- A. 35.5u
- B. 58.5u
- C. 57u
- D. 23u

Q6 General Science

Which of the following is true about the magnetic field around a current carrying solenoid?

- A. The field in the core of the solenoid decreases from one end of the other end.
- The field line pattern of the solenoid resembles the magnetic field line pattern of a straight current carrying wire.
- B. The direction of magnetic field associated with the solenoid can be reversed by reversing the direction of current flowing through it.
- The field associated with the solenoid can be increased by decreasing the number of turns in the solenoid.
- D. increased by decreasing the number of turns in the solenoid.

Q7 General Science

Which of the following shows the correct formula for acceleration?

- A. acceleration = distance / time
- B. acceleration = change in velocity × time
- C. acceleration = change in velocity / time taken
- D. acceleration = force × mass

Q8 General Science

A mass of 3 kg is lifted to a height of 12 m. What is the value of potential energy at the given height?

(Take $g = 10 \text{ m/s}^2$)

- A. 360.0 J
- B. 36.0 J
- C. 3.0 J
- D. 4.0 J

Q9 General Science

In HIV infection, the 'window period' refers to the phase during which _____.

- A. HIV antibodies are detectable in tests
- B. symptoms are severe
- C. HIV antibodies are not detectable in tests
- D. the patient dies



Q10 General Science

Which of the following statements about asexual reproduction is INCORRECT?

- A. It involves the fusion of male and female gametes.** ✓
- B. It involves only one parent.
- C. It produces offspring that are genetically identical clones of the parent.
- D. Fission is a method of asexual reproduction.

Q11 General Science

Consider the following statements and select the correct option.

Statement A: A neutralisation reaction occurs when an acid reacts with a base.
Statement B: Water and salt are formed during neutralisation.

- A. Both statements A and B are incorrect.
- B. Statement A is correct but B is incorrect.
- C. Both statements A and B are correct.** ✓
- D. Statement A is incorrect but B is correct.

Q12 General Science

What is the function of the nuclear membrane in a cell?

- A. It stores digestive enzymes for chromosomal activities.
- B. It prevents the entry of gases and water molecules into the nucleus.
- C. It regulates the transfer of material between nucleus and cytoplasm.** ✓
- D. It provides energy for nuclear division during mitosis.

Q13 General Science

Which component is used in a circuit to increase resistance and limit current?

- A. Resistor** ✓
- B. Battery
- C. Switch
- D. Lamp

Q14 General Science

The cleansing action of soap is due to which of its properties?

- A. Ability to form micelles** ✓
- B. High melting point
- C. Being a strong acid
- D. Being a strong base

Q15 General Science

Vinegar is a 5-8% solution of which of the following?

- A. Acetic acid in water** ✓
- B. Calcium carbonate in water
- C. Formic acid in water
- D. Sodium hydroxide in water

Q16 General Science

A car's odometer shows 3000 km at the beginning of a journey and 3200 km at the end. If the journey takes 4 hours, what is the car's average speed?

- A. 75 km/hr
- B. 25 km/hr
- C. 50 km/hr** ✓
- D. 100 km/hr

Q17 General Science

In animals, which of the following hormones are secreted during a scary situation?

- A. Growth hormone
- B. Adrenaline** ✓
- C. Insulin
- D. Thyroxin

Q18 General Science

Which of the following is a major condition for successful beekeeping?

- A. Presence of pollinating insects
- B. Availability of flowering plants throughout the year** ✓
- C. Growing wheat and rice
- D. Use of pesticides



Q19 General Science

What is the primary function of lysosomes in a cell?

- A. Regulation of water and mineral balance within the cytoplasm
- B. Production of energy in the form of ATP molecules
- C. Digestion of foreign materials and worn-out organelles ✓
- D. Synthesis of proteins and lipids for cell membranes

Q20 General Science

Parenchyma cells contain large intercellular spaces for:

- A. Gas exchange and storage ✓
- B. Protection and transpiration
- C. Photosynthesis and support
- D. Conduction and secretion

Q21 General Science

If an object is placed at a distance 'u' from a convex lens, 'u' _____.

- A. depends on the type of image
- B. is taken as negative ✓
- C. is taken as positive
- D. is taken as zero

Q25 General Science

The number of protons in $^{12}_6\text{C}$ and $^{14}_6\text{C}$, respectively, are:

- A. 8 and 6
- B. 6 and 8
- C. 6 and 6 ✓
- D. 7 and 7

Q22 General Science

Which of the following is NOT explained by the law of gravitation?

- A. Falling of raindrops to the Earth
- B. Artificial satellites revolving around the Earth
- C. The electrostatic attraction between two charged bodies ✓
- D. Tides in oceans

Q23 General Science

Which of the following statements about Presbyopia is correct?

- A. The near point becomes less than 25 cm.
- B. It usually occurs in young children.
- C. It is corrected only by concave lenses.
- D. It occurs due to weakening of ciliary muscles and loss of lens flexibility. ✓

Q24 General Science

Which of the following correctly distinguishes binary fission from multiple fission in unicellular organisms?

- A. Binary fission produces two daughter cells, whereas multiple fission produces many daughter cells at once. ✓
- B. Binary fission occurs only in multicellular organisms, while multiple fission occurs in unicellular ones.
- C. Binary fission results in many daughter cells, while multiple fission forms only two.
- D. Binary fission requires spores, but multiple fission does not.



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is true for mixtures but NOT for compounds?

- A. Components lose their individual properties.
- B. Components are present in fixed ratio.
- C. Components can be separated by physical methods. ✓
- D. New substances are formed.

Q2 General Science

What happens to the gravitational force between two objects if both of their masses are doubled?

- A. The force becomes half
- B. The force becomes quadruple
- C. The force becomes double
- D. The force becomes four times greater ✓

Q3 General Science

What are the main products formed when ethanol burns completely in air?

- A. Carbon dioxide and water ✓
- B. Oxygen and methane
- C. Ethane and water
- D. Carbon monoxide and hydrogen

Q4 General Science

Which pair of energy forms constitutes the total mechanical energy of an object?

- A. Electrical energy and Light energy
- B. Heat energy and Chemical energy
- C. Nuclear energy and Sound energy
- D. Potential energy and Kinetic energy ✓

Q5 General Science

Which of the following events directly triggers the process of menstruation?

- A. Maturation of the egg
- B. Non fertilisation of egg and hormonal changes ✓
- C. Release of sperm into the vagina
- D. Fertilisation of the egg

Q6 General Science

During evaporation, when the average kinetic energy of molecules decreases, what is the effect on temperature?

- A. No effect on temperature.
- B. It decreases. ✓
- C. It will remain the same.
- D. It increases.

Q7 General Science

According to Newton's Second Law of Motion, force is given by the relation $F = ma$. If a body's velocity changes from u (initial velocity) to v (final velocity) in time t , which of the following expressions correctly gives the force acting on the body?

- A. $F = m(u-v)/t$
- B. $F = t(v-u)/m$
- C. $F = m(v-u)/t$ ✓
- D. $F = mt/(v-u)$

Q8 General Science

Which of the following represents a straight chain hydrocarbon?

- A. Benzene
- B. Butane ✓
- C. Cyclopentane
- D. Isobutane

Q9 General Science

A person ignores regular vehicle maintenance. Which of the following is most likely to happen?

- A. Decreased pollution
- B. Better tyre grip and less pollution
- C. Increased fuel efficiency
- D. Poor engine performance ✓



Q10 General Science

Which type of connective tissue connects muscles to bones?

A. Tendon



B. Ligament

C. Joints

D. Blood

Q11 General Science

An ultrasonic wave has a frequency of 33 kHz. What will be the wavelength of this wave, if its speed is 330 m/s?

A. 100 m

B. 0.01 m



C. 0.1 m

D. 10 m

Q12 General Science

When an object is placed at the principal focus of a convex lens, the image is formed:

A. Between F and O, virtual and erect.

B. At infinity, real, inverted, and highly enlarged.



C. At 2F, inverted, and magnified.

D. At the focus, inverted, and of same size.

Q13 General Science

Which of the following statements is true about movement in the plant 'Touch me not'?

A. Plant movement takes place because roots absorb minerals.

B. Plant movement happens due to growth of new xylem cells.

C. Plant movement occurs because phloem transports food.

D. Plant movement happens due to changes in water content in cells.

**Q14 General Science**

What is the main function of bile in human digestion?

A. To digest proteins completely in the stomach

B. To mix food with saliva for easy swallowing

C. To make food alkaline and break down large fat globules



D. To convert glucose into glycogen in the liver

Q15 General Science

In a parallel combination of resistors, which of the following quantities remains the same across all the resistors?

A. The power consumed (P)

B. The equivalent resistance (R_{eq})

C. The electric current (I)

D. The potential difference (V)

**Q16 General Science**

Consider the following statements and select the correct option.

Statement A: Sugarcane juice can be fermented to give alcohol (ethanol).

Statement B: Alcohol is added to petrol because it is a cleaner fuel.

A. Both statements A and B are correct.



B. Statement A is correct, but B is incorrect.

C. Statement A is incorrect, but B is correct.

D. Both statements A and B are incorrect.

Q17 General Science

Which of the following is a correct property of solids?

A. Solids have no fixed shape.

B. Solids are highly compressible.

C. Solids diffuse easily.

D. Solids have strong intermolecular forces.

**Q18 General Science**

A woman using a copper-T complains of abdominal pain and discomfort. What is the likely reason?

A. Infection in the stomach

B. Uterine irritation caused by the IUD



C. Blockage in fallopian tube

D. Hormonal imbalance due to tablets

Q19 General Science

A passenger in a moving bus falls forward when the bus suddenly stops. This is due to which of the following?

A. Friction between seat and passenger

B. Gravity

C. Inertia of motion of the passenger



D. Force applied by the bus



Q20 General Science

What is the benefit of seed dispersal in plants?

- A. It promotes the availability of mineral nutrients to plants.
- B. It enables plants to expand their distribution. ✓
- C. It increases competition between plants for sunlight.
- D. It makes more water available to plants.

Q21 General Science

Four resistors of $5\ \Omega$, $15\ \Omega$, $20\ \Omega$ and $40\ \Omega$ are connected in series. The equivalent resistance is _____.

- A. $20\ \Omega$
- B. $3\ \Omega$
- C. $0.5\ \Omega$
- D. $80\ \Omega$ ✓

Q22 General Science

Which method is commonly used for extracting moderately reactive metals such as iron from their ores?

- A. Chemical reduction of the ore using carbon-based reducing agents ✓
- B. Direct heating of the metallic ore strongly in the presence of air
- C. Dissolving and melting of the ore material in concentrated acids
- D. Electrolysis performed on the molten form of metal oxide ores

Q25 General Science

In the reaction between aqueous sodium sulphate and aqueous barium chloride, which compound forms the white precipitate?

- A. Na_2SO_4
- B. BaCl_2
- C. NaCl
- D. BaSO_4 ✓

Q23 General Science

The sign convention for focal length of a concave lens _____.

- A. depends on object position
- B. is negative ✓
- C. is zero
- D. is positive

Q24 General Science

Which of the following correctly describes parenchyma, a simple permanent tissue?

- A. Parenchyma cells are highly specialised and tightly packed with no space between them.
- B. Parenchyma is made of living, loosely arranged cells with thin walls that store food. ✓
- C. Parenchyma consists of dead, thick-walled cells without intercellular spaces.
- D. Parenchyma is a complex tissue found only in vascular bundles.



General Science

25 Questions • Answer Key

Q1 General Science

In a metallic wire obeying Ohm's Law, if the resistance remains constant, reducing the potential difference across its terminals to one-half of its former value will result in what change in the current flowing through it?

- A. The current reduces to one-fourth of its former value.
- B. The current reduces to one-half of its former value. ✓
- C. The current remains constant.
- D. The current doubles.

Q2 General Science

Newton's third law of motion deals with the nature of _____.

- A. forces always occurring in pairs ✓
- B. the relationship between mass and acceleration
- C. the force of gravity acting on a falling object
- D. a single object resisting a change in motion

Q3 General Science

In which of the following plants, seed is dispersed by the bursting of fruits?

- A. Castor ✓
- B. Sunflower
- C. Xanthium
- D. Urena

Q4 General Science

Which statement correctly defines the process of evaporation?

- A. It requires the liquid to freeze before changing to the gas form
- B. It takes place only at the boiling temperature of a liquid
- C. It changes a liquid to gas from the surface below boiling point ✓
- D. It changes solids directly into vapors upon heating strongly

Q5 General Science

Who first described the nucleus as a cell organelle in 1831?

- A. Robert Brown ✓
- B. Rudolf Virchow
- C. Anton van Leeuwenhoek
- D. Robert Hooke

Q6 General Science

The blue colour of the sky appears due to:

- A. absorption of blue light by air molecules
- B. scattering of shorter wavelength of sunlight by air molecules ✓
- C. reflection of light by air molecules
- D. refraction of light by air molecules

Q7 General Science

The sign of acceleration depends on its direction relative to velocity. Which of the following is correct?

- A. Acceleration is always positive, irrespective of direction.
- B. Acceleration is negative if it is in the direction of velocity.
- C. Acceleration is positive if it is in the direction of velocity, and negative if it is opposite. ✓
- D. Acceleration is positive if it is opposite to the direction of velocity.

Q8 General Science

The reaction between sodium sulphate and barium chloride is an example of double displacement reaction. This is also an example of:

- A. displacement reaction
- B. decomposition reaction
- C. precipitation reaction ✓
- D. combination reaction



Q9 General Science

Which of the following statements is INCORRECT about regeneration?

- A. Regeneration involves specialised cells and requires cell division.
- B. Fragmentation occurs in simple multicellular organisms like Spirogyra.
- C. In complex animals, regeneration is limited to repair of tissues, not formation of a whole organism.
- D. Dogs can regrow lost body parts and form whole new individuals. ✓

Q10 General Science

What determines the sex of a child in humans?

- A. Number of autosomes
- B. Mitochondrial DNA
- C. Father's sperm ✓
- D. Mother's ovum

Q11 General Science

Which of the following metals, according to the reactivity series, is the most reactive?

- A. Copper
- B. Zinc
- C. Iron
- D. Potassium ✓

Q12 General Science

Which of the following best describes the function of nervous tissue?

- A. It protects internal organs from mechanical injury.
- B. It stores energy in the form of fat globules.
- C. It transmits information rapidly from one body part to another. ✓
- D. It provides rigidity and strength to the body framework.

Q13 General Science

What is the function of plasma in human blood?

- A. It transports food, carbon dioxide and waste materials. ✓
- B. It maintains the oxygen-rich blood supply to tissues.
- C. It helps in clotting blood during injuries.
- D. It carries oxygen from lungs to all parts of the body.

Q14 General Science

Which of the following conditions is essential for rusting of iron?

- A. Only water
- B. Dry air only
- C. Both air and water ✓
- D. Only air

Q15 General Science

Which of the following is a physical property of metals?

- A. Poor conductor of heat and brittle
- B. Form gases at room temperature
- C. Soft and break with light force
- D. Highly ductile and malleable ✓

Q16 General Science

Formula unit mass is:

- A. the sum of the atomic masses of all atoms in a formula unit of a compound ✓
- B. the sum of the number of protons of all atoms in a formula unit of a compound
- C. the sum of the number of electrons of all atoms in a formula unit of a compound
- D. the sum of the atomic number of all atoms in a formula unit of a compound

Q17 General Science

How is the work done by a force calculated?

- A. $\text{Work} = \text{force} \times \text{displacement}$ ✓
- B. $\text{Work} = \text{force} \div \text{displacement}$
- C. $\text{Work} = \text{displacement} \div \text{force}$
- D. $\text{Work} = \text{force} + \text{displacement}$

Q18 General Science

Which of the following is classified as an element?

- A. Water
- B. Copper ✓
- C. Air
- D. Salt



Q19 General Science

An object is placed 10 cm from a concave lens of focal length 15 cm. Which statement about the image is correct?

- A. Image is real, inverted and smaller than the object.
- B. Image is real, inverted and larger than the object.
- C. Image is virtual, erect and smaller than the object. ✓
- D. Image is virtual, erect and larger than the object.

Q20 General Science

Which of the following breeds of cows is resistant to diseases?

- A. Aseel
- B. Jersey
- C. Red Sindhi ✓
- D. Brown Swiss

Q21 General Science

Why are ceilings of concert halls often made curved?

- A. To reflect sound uniformly in all directions ✓
- B. To reduce the speed of sound in air
- C. To completely stop reverberation
- D. To absorb sound and reduce loudness

Q22 General Science

The Chipko Andolan refers to which of the following?

- A. Use of advanced technologies for reducing environmental pollution
- B. Government-sponsored water harvest schemes
- C. Active participation of local communities in protecting forests ✓
- D. Government-sponsored environmental protection schemes

Q23 General Science

Which of the following is NOT correct?

- A. In the electrical circuit, if the switch is open, no current flows.
- B. In the electrical circuit, the direction of current is taken from the positive to the negative terminal.
- C. In the electrical circuit, the voltmeter is connected in series with the component. ✓
- D. A bulb glows only in a closed circuit.

Q24 General Science

Select the option that balances the following reaction.



- A. $x=1, y=1, z=2$
- B. $x=2, y=2, z=1$
- C. $x=1, y=1, z=1$
- D. $x=2, y=1, z=1$ ✓

Q25 General Science

Two objects of mass 100 kg each are separated by a distance of 1 m. What will be the magnitude of the gravitational force between the two objects? (Take the value of G as $6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$)

- A. $6.67 \times 10^{-9} \text{ N}$
- B. $6.67 \times 10^{-7} \text{ N}$ ✓
- C. $6.67 \times 10^9 \text{ N}$
- D. $6.67 \times 10^7 \text{ N}$



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following best describes the relation between a cell's shape and its role?

- A. Cell shape is random.
- B. Cell shape supports its specific function. ✓
- C. All cells are round regardless of function.
- D. All cells have the same function.

Q2 General Science

The closeness of magnetic field lines indicates:

- A. Direction of magnetic field
- B. Strength of magnetic field ✓
- C. Position of the poles
- D. Length of the magnet

Q3 General Science

We express the concentration of solution in various ways. Which of the following method is INCORRECT?

- A. Mass by volume percentage of a solution
- B. Volume by mass percentage of a solution ✓
- C. Volume by volume percentage of a solution
- D. Mass by mass percentage of a solution

Q4 General Science

Which type of bond is present between carbon atoms in saturated hydrocarbons?

- A. Single bond ✓
- B. Triple bond
- C. Both double and triple bonds
- D. Double bond

Q5 General Science

Read the given assertion (A) and reason (R) and select the most appropriate option.

(A): Oral contraceptive pills are a permanent method of contraception.

(R): They change hormone levels and prevent ovulation.

- A. Both A and R are false
- B. Both A and R are true, but R is not the correct explanation of A
- C. A is false, but R is true ✓
- D. Both A and R are true, and R is the correct explanation of A

Q6 General Science

What are the noticeable changes observed when an iron nail is placed in copper sulphate solution?

- A. The iron nail remains as it is and the blue colour of the copper sulphate solution fades.
- B. The iron nail becomes brownish in colour and the blue colour of the copper sulphate solution remains blue.
- C. The iron nail becomes brownish in colour and the blue colour of the copper sulphate solution changes to yellow.
- D. The iron nail becomes brownish in colour and the blue colour of the copper sulphate solution fades. ✓

Q7 General Science

What is the name of the fluid present inside a plant cell vacuole?

- A. Cytoplasm
- B. Protoplasm
- C. Nucleoplasm
- D. Cell sap ✓

Q8 General Science

Which statement is INCORRECT regarding mass and weight?

- A. Mass is the measure of inertia, weight is the force due to gravity.
- B. Mass has SI unit kg, weight has SI unit newton.
- C. Mass is scalar, weight is vector.
- D. Mass varies from place to place, weight remains constant. ✓



Q9 General Science

Which of the following correctly pairs a nerve type with its origin?

A. Cranial nerves – Brain



B. Spinal nerves – Heart

C. Cranial nerves – Spinal cord

D. Spinal nerves – Brain

Q10 General Science

Which statement best supports the Law of Constant Proportions?

A. Mud from two ponds containing different minerals

B. Soil from two areas with mixed organic content

C. Sand from two places with varying grain size

D. Water from two sources with identical composition

**Q11 General Science**

During energy transformation, the total energy of a system:

A. disappears completely

B. always decreases

C. remains unchanged



D. always increases

Q12 General Science

Which of the following occurs due to continuous movement of gas particles?

A. Condensation

B. Melting

C. Evaporation

D. Diffusion

**Q13 General Science**

In humans, after fertilisation, the embryo is implanted in which part of the body?

A. Fallopian tube

B. Uterus



C. Stomach

D. Ovary

Q14 General Science

Why is it advised to clean your mouth after vomiting?

A. To remove bad odour

B. To stop the spread of infection

C. To neutralise the acid and protect tooth enamel



D. To avoid dehydration

Q15 General Science

Ethanol reacts with sodium leading to the formation of sodium ethoxide with the evolution of:

A. nitrogen gas

B. chlorine gas

C. hydrogen gas



D. bromine gas

Q16 General Science

In a house, electricity is supplied at 220 V. If the maximum power consumption of the house is 11 kW, what should the rating of the main fuse be?

A. 50 A



B. 100 A

C. 20 A

D. 30 A

Q17 General Science

Megaphones, loudhailers, and shehnais are designed to:

A. focus sound waves in a particular direction



B. reduce the intensity of sound waves

C. spread sound waves equally in all directions

D. convert sound waves into electrical signals

Q18 General Science

In human females, which of the following structures carries egg from the ovary to the womb?

A. Cervix

B. Uterus

C. Fallopian tube



D. Vaginal tube



Q19 General Science

Which of the following quantities is a measure of the inertia of a body?

A. Mass



B. Weight

C. Acceleration

D. Force

Q20 General Science

Which of the following best describes a person with hypermetropia?

A. They are unable to see anything without glasses

B. Their vision is equally blurred for both near and distant objects

C. They can see nearby objects clearly but distant ones appear blurry

D. They can see faraway objects clearly but struggle to see things up close

**Q21 General Science**

Which of the following metals is least reactive?

A. Sodium

B. Gold



C. Magnesium

D. Zinc

Q22 General Science

Which of the following help in maintaining the supply of nutrients to the growing plants in the forest?

A. Secondary consumers

B. Tertiary consumers

C. Decomposers



D. Primary consumers

Q23 General Science

According to Newton's third law, action and reaction forces:

A. act on the same object at the same time

B. act on two different objects at the same time



C. act on the same object at different times

D. cancel each other out because they are equal

Q24 General Science

Which of the following mirrors is used as a shaving mirror to get a magnified image of the face?

A. Plane mirror

B. Parabolic mirror

C. Convex mirror

D. Concave mirror

**Q25 General Science**

Which of the following features are displayed by all cells under a microscope?

A. Only plasma membrane and nucleus

B. Plasma membrane, nucleus and cytoplasm

C. Only plasma membrane and cytoplasm



D. Only nucleus and cytoplasm



General Science

25 Questions • Answer Key

Q1 General Science

What will be the change in kinetic energy of the particles of solid if temperature is increased?

A. Kinetic energy increases. ✓

B. Kinetic energy decreases.

C. Kinetic energy becomes zero.

D. Kinetic energy remains same.

Q2 General Science

Which of the following is a chemical change?

A. Melting of ice

B. Rusting of iron ✓

C. Cutting of paper

D. Dissolving salt in water

Q3 General Science

Which of the following is NOT a combination reaction?

A. $C + O_2 \rightarrow CO_2$

B. $2Mg + O_2 \rightarrow 2MgO$

C. $HCl + NaOH \rightarrow NaCl + H_2O$ ✓

D. $N_2 + 3H_2 \rightarrow 2NH_3$

Q4 General Science

Which of the following is a correct match of tissue type and its example?

A. Connective tissue – Blood ✓

B. Muscular tissue – Neurons

C. Nervous tissue – Muscles

D. Epithelial tissue – Blood

Q5 General Science

Which of the following is a general property of ionic compounds?

A. They exist as molecules and have weak interatomic forces

B. They are brittle and conduct electricity in molten or aqueous state ✓

C. They are insoluble in water and conduct electricity in solid state

D. They are soft and have low melting points

Q6 General Science

What is the role of a fuse in an electric circuit?

A. To break the circuit if the current exceeds a safe level, preventing damage ✓

B. To increase the current when needed

C. To not break the circuit if the current exceeds a safe level

D. To cool down the wires during overheating

Q7 General Science

The gravitational constant (G) was first measured by _____.

A. Newton

B. Galileo

C. Cavendish ✓

D. Kepler

Q8 General Science

Which of the following DOES NOT use the concept of multiple reflection of sound waves?

A. Vibrating tuning fork ✓

B. Trumpet

C. Stethoscope

D. Megaphones

Q9 General Science

The image formed on the retina of the human eye is _____.

A. real and inverted ✓

B. real and erect

C. virtual and erect

D. virtual and inverted

Q10 General Science

Which of the following is a typical physical property of a metal?

A. Non-lustrous

B. Poor conductor of electricity

C. Brittle

D. Malleable ✓



Q11 General Science

A gardener wants to grow stronger plants with better fruit. Which pollination method should they encourage?

- A. Geitonogamy
- B. Self-pollination
- C. Cross-pollination ✓
- D. Test Pollination

Q12 General Science

What is the term used for the refractive index of a medium when medium 1 is specified as vacuum or air?

- A. Absolute refractive index ✓
- B. Relative refractive index
- C. Comparative refractive index
- D. Optical density

Q13 General Science

Which statement correctly distinguishes between plant and animal tissues?

- A. Animal tissues are mostly dead, while plant tissues are mostly living
- B. Both plant and animal tissues have equal growth throughout the body
- C. Plant tissues have dead supportive cells, while animal tissues are mostly living ✓
- D. Plant tissues have no supportive structure, while animals lack living tissues

Q14 General Science

When a gun is fired, the bullet moves forward, and the gun recoils backward. This is an example of _____.

- A. Newton's First Law of Motion
- B. Newton's Third Law of Motion ✓
- C. Newton's Second Law of Motion
- D. Law of Conservation of Energy

Q15 General Science

In which of the following metals will the rate of formation of bubbles be fastest when it reacts with dil. HCl?

- A. Fe
- B. Al
- C. Mg ✓
- D. Zn

Q16 General Science

A special tissue through which the foetus receives nutrition is called which of the following?

- A. Placenta ✓
- B. Uterus
- C. Cervix
- D. Fallopian tube

Q17 General Science

In what way do insect pests negatively impact crop yield?

- A. By enriching the soil with nutrients
- B. By supporting flower formation
- C. By damaging roots, stems, and fruits of plants ✓
- D. By spreading seeds to new areas

Q18 General Science

Why are micro-nutrients important for plants?

- A. They support essential functions even in small amounts. ✓
- B. They increase the size of the plant roots.
- C. They are only needed for decorative plants.
- D. They help in the absorption of sunlight.

Q19 General Science

Which rule is used to find the direction of force on a current-carrying conductor?

- A. Fleming's left-hand rule ✓
- B. Fleming's right-hand rule
- C. Ohm's law
- D. Lenz's law

Q20 General Science

Kamali spends a lot of time studying for examinations, including reading books and organising thoughts. Why would a scientist argue that this 'hard work' involves very little 'work' in the scientific sense?

- A. Because energy is conserved, so work done must be zero.
- B. Because displacement is necessary, and studying involves zero or minimal physical displacement of the body. ✓
- C. Because mental effort does not involve force.
- D. Because the activity is considered useful physical labour.



Q21 General Science

Galvanisation is a method of protecting steel and iron from rusting by coating them with a thin layer of:

- A. copper
- B. zinc ✓
- C. magnesium
- D. aluminium

Q22 General Science

According to the Law of Constant Proportions, water (H_2O) will always contain hydrogen and oxygen in the mass ratio of:

- A. 1:2
- B. 1:8 ✓
- C. 8:1
- D. 2:1

Q23 General Science

Which of the following is a characteristic feature of meristematic cells?

- A. Thick walls and large vacuoles
- B. Thin walls with lignin deposits
- C. Dead cells with empty spaces
- D. Dense cytoplasm and lack of vacuoles ✓

Q24 General Science

In the male reproductive system, where does sperm formation take place?

- A. Seminal vesicles
- B. Scrotum
- C. Vas deferens
- D. Testes ✓

Q25 General Science

A particle moves along a straight line. The particle covers displacement of 40 m in 8 seconds. What is its average velocity?

- A. 4 m/s
- B. 40 m/s
- C. 5 m/s ✓
- D. 8 m/s



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following happens when the distances between roots and leaves become large in plants?

- A. Roots absorb no water.
- B. More chlorophyll is produced.
- C. Diffusion becomes insufficient. ✓
- D. Diffusion becomes faster.

Q2 General Science

Spring balance A is attached at one end to spring balance B, whose other end is fixed to a rigid support. A force is applied to the free end of spring balance A. Both balances show the same reading. What does this observation indicate?

- A. The force exerted by A on B is equal and opposite to the force exerted by B on A. ✓
- B. Only spring balance A exerts force on B.
- C. Both balances exert forces in the same direction.
- D. The force exerted by A on B is greater than that by B on A.

Q3 General Science

Which combination reaction also demonstrates the neutralisation of atmospheric pollution components?

- A. $\text{CO} + \text{O}_2 \rightarrow \text{CO}_2$
- B. $\text{SO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{SO}_3$
- C. $\text{CaO} + \text{CO}_2 \rightarrow \text{CaCO}_3$ ✓
- D. $\text{Fe} + \text{S} \rightarrow \text{FeS}$

Q4 General Science

After fertilisation, when other parts of the flower fall off, the ovary grows into what form?

- A. Fruit ✓
- B. Style
- C. Anther
- D. Pollen tube

Q5 General Science

Formula unit mass is defined as:

- A. the mass of one molecule
- B. the molecular mass of a compound
- C. the atomic mass of the lightest element
- D. the sum of atomic masses of all atoms in a formula unit of an ionic compound ✓

Q6 General Science

Alloys, air, lemonade, and soda water are examples of which of the following categories of solutions?

- A. Heterogeneous mixture
- B. Colloids
- C. Homogeneous mixture ✓
- D. Suspension

Q7 General Science

Which device relies on the heating effect of current to protect circuits and appliances by intentionally melting to break the circuit when the current exceeds a specified limit?

- A. Electric fuse ✓
- B. Electric bulb filament
- C. Rheostat
- D. Electric iron coil

Q8 General Science

Which process must accompany DNA copying to ensure the formation of functional daughter cells?

- A. Chromosomal mutation
- B. Creation of additional cellular apparatus ✓
- C. Protein synthesis only
- D. RNA transcription only

Q9 General Science

A chemical reaction in which two or more substances combine to form a single product is called:

- A. double displacement reaction
- B. combination reaction ✓
- C. decomposition reaction
- D. displacement reaction



Q10 General Science

Which two properties of carbon are mainly responsible for the formation of a large number of carbon compounds?

- A. Metallic character and conductivity
- B. Tetravalency and catenation ✓
- C. Tendency to form ionic bonds and lose electrons
- D. High atomic mass and large atomic size

Q11 General Science

Which of the following organisms will accumulate maximum concentration of DDT?

- A. Grass
- B. Human ✓
- C. Spider
- D. Goat

Q12 General Science

Which of the following statements is correct about gravitational force?

- A. It depends on the medium between the objects.
- B. It is always attractive in nature. ✓
- C. It depends on the charge of the objects.
- D. It can be both attractive and repulsive.

Q13 General Science

Which of the following statements best describes the properties of a liquid?

- A. Fixed shape, fixed volume
- B. No fixed shape, no fixed volume
- C. Fixed shape, no fixed volume
- D. No fixed shape, fixed volume ✓

Q14 General Science

When an object is placed at infinity in front of a convex lens, the image formed is:

- A. At the optical centre, virtual and enlarged
- B. At the focus (F), real and highly diminished ✓
- C. Between F and 2F, real and inverted
- D. At 2F, real and of same size

Q15 General Science

When a raised hammer falls on a nail and drives it into wood, the work done by the force of the hammer on the nail is positive. In this same scenario, which statement would describe negative work?

- A. The work done by the force exerted by the nail on the hammer. ✓
- B. The work done by the force of gravity acting on the hammer as it falls.
- C. The work done by the potential energy stored in the hammer.
- D. The work done by the force of gravity acting on the nail as it moves into the wood.

Q16 General Science

Which of the following statements about epithelial tissue is correct?

- A. Epithelial tissue forms a protective covering and regulates material exchange. ✓
- B. Epithelial tissue mainly connects bones and muscles.
- C. Epithelial tissue does not play any role in material exchange in the body.
- D. Epithelial tissue cells have large intercellular spaces and form a loose sheet.

Q17 General Science

Which of the following rules determines the direction of the magnetic field produced by a current carrying circular loop?

- A. Left-Hand Thumb rule
- B. Fleming's Left-Hand rule
- C. Right-Hand Thumb rule ✓
- D. Fleming's Right-Hand rule

Q18 General Science

Which of the following is a use of washing soda?

- A. Removes the hardness of water ✓
- B. Used in cooking
- C. Used in treatment of hot water
- D. Used to kill bacteria in water



Q19 General Science

Why does the uterine lining become thick and spongy every month?

- A. To prevent menstruation
- B. To support egg development
- C. To absorb nutrients
- D. To nourish the embryo if fertilisation occurs ✓

Q20 General Science

What is the nature of the distance-time graph for an object in non-uniform motion?

- A. A vertical line
- B. A horizontal line
- C. A curved line ✓
- D. A straight line

Q21 General Science

What is the relationship between the radius of curvature and the focal length for spherical mirrors with small apertures?

- A. Radius of curvature is equal to twice the focal length ✓
- B. Radius of curvature is equal to half the focal length
- C. Radius of curvature is equal to the focal length
- D. Radius of curvature is equal to thrice the focal length

Q22 General Science

What is the primary goal of reducing non-biodegradable waste production?

- A. To make more space available in landfills
- B. To recycle the waste
- C. To conserve natural resources and minimise pollution ✓
- D. To promote industrial growth

Q23 General Science

Which of the following statements correctly describes plastids in plant cells?

- A. They are found in prokaryotic cells like bacteria for photosynthesis
- B. They are present in both plant and animal cells in equal amount
- C. They are present only in plant cells and absent in animal cells ✓
- D. They are present only in animal cells and absent in plant cells

Q24 General Science

The combining capacity of an element to each other primarily depends on which of the following?

- A. Number of neutrons
- B. Number of valence electrons ✓
- C. Number of energy level
- D. Number of protons

Q25 General Science

Which of the following correctly describes the relation between frequency (ν) and time period (T)?

- A. $\frac{\nu}{T} = 1$
- B. $\nu + T = 1$
- C. $\nu T = 0$
- D. $\nu T = 1$ ✓



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following correctly describes the SI unit of electric power and the commercial unit of electrical energy, respectively?

- A. Kilowatt-hour (kWh); Watt (W)
- B. Watt (W); Kilowatt-hour (kWh) ✓
- C. Volt (V); Joule (J)
- D. Watt (W); Joule (J)

Q2 General Science

A body of mass 'm' experiences a force 'F', producing an acceleration 'a'. If the same force acts on a body of mass '2m', the acceleration produced will be:

- A. 2a
- B. a
- C. a/4
- D. a/2 ✓

Q3 General Science

Which of the following is a homogeneous mixture?

- A. Sand and iron
- B. Water and ice
- C. Air ✓
- D. Oil and water

Q4 General Science

Which cropping pattern involves growing two or more crops together on the same land at the same time, but in a defined row or spatial arrangement?

- A. Intercropping ✓
- B. Crop rotation
- C. Mixed cropping
- D. Monocropping

Q5 General Science

Why is carbon able to form a large number of compounds?

- A. It has high density.
- B. It shows catenation and tetravalency. ✓
- C. It forms strong ionic bonds.
- D. It is highly reactive.

Q6 General Science

Which of the following best explains the importance of fertilisation in sexual reproduction?

- A. It allows the formation of an embryo ✓
- B. It cleanses the reproductive tract
- C. It increases the number of eggs in females
- D. It helps the uterus for menstrual flow

Q7 General Science

Hydrometers are tools used to measure the density of liquids. Which scientific principle are they based on?

- A. Archimedes' Principle ✓
- B. Universal law of Gravitation
- C. Newton's First Law
- D. Pascal's Law

Q8 General Science

If the length of a uniform metallic conductor is doubled, and simultaneously its area of cross-section is doubled, how does the resistance of the conductor change?

- A. It decreases to one-half of the original resistance.
- B. It remains the same as the original resistance. ✓
- C. It becomes four times the original resistance.
- D. It doubles the original resistance.

Q9 General Science

A sound wave has a wavelength of 0.5 m and frequency 680 Hz. The speed of sound is:

- A. 1360 m/s
- B. 170 m/s
- C. 340 m/s ✓
- D. 680 m/s

Q10 General Science

Which quantity changes due to an unbalanced force?

- A. Velocity ✓
- B. Density
- C. Mass
- D. Time



Q11 General Science

What does the term 'formula unit mass' refer to?

- A. Mass of a single proton in an atom
- B. Sum of atomic masses of all atoms in the compound** ✓
- C. Mass of one molecule of a covalent compound
- D. Total mass of atoms in one mole of a compound

Q12 General Science

When an object is placed at the focus of a convex lens, the formation of image is _____.

- A. on the same side as the object
- B. between F and 2F
- C. at infinity** ✓
- D. at the centre of curvature

Q13 General Science

Refer to the two statements given below and choose the correct option.

Statement A: Acids react with all metals to form hydrogen gas.

Statement B: Gold and platinum also react with acids to release hydrogen.

- A. Statement A is correct but B is incorrect.
- B. Both statements A and B are correct.
- C. Both statements A and B are incorrect.** ✓
- D. Statement A is incorrect but B is correct.

Q14 General Science

A basic solution will have a pH:

- A. Equal to 7
- B. Greater than 7** ✓
- C. That cannot be predicted
- D. Less than 7

Q15 General Science

Which of the following cellular organelles performs the function of storage, modification and packaging of products in vesicles?

- A. Chloroplast
- B. Ribosomes
- C. Vacuoles
- D. Golgi Complex** ✓

Q16 General Science

The principal focus of a convex lens is _____.

- A. always at infinity
- B. the point where diverging rays meet
- C. the point behind the lens where rays diverge
- D. the point where parallel rays converge** ✓

Q17 General Science

Which of the following is NOT a typical characteristic of plants produced through vegetative propagation?

- A. They do not require pollination.
- B. They show variation in characteristics among offspring.** ✓
- C. They flower and fruit earlier than seed-grown plants.
- D. They are genetically identical to the parent.

Q18 General Science

Muscle cells show higher mitochondrial activity after exercise. The result indicates which of the following?

- A. Cell division stops.
- B. Cells are becoming larger.
- C. Mitochondria cause fatigue.
- D. More energy is required during activity.** ✓

Q19 General Science

What is the primary purpose of the process of nutrition in living organisms?

- A. To form oxygen molecules required for photosynthesis
- B. To produce carbon dioxide and other waste materials
- C. To obtain energy and raw materials from external sources** ✓
- D. To regulate visible movement and reproduction

Q20 General Science

What determines the atomic number of an element?

- A. Number of electrons in all shells
- B. Difference between mass and charge
- C. Number of neutrons in an isotope
- D. Total number of protons in nucleus** ✓



Q21 General Science

When a more reactive metal is placed in the salt solution of a less reactive metal, it:

- A. gets oxidised
- B. displaces the less reactive metal ✓
- C. gets reduced
- D. does not react

Q22 General Science

What is the energy absorbed during change of state at constant temperature called?

- A. Kinetic energy
- B. Latent heat ✓
- C. Specific heat
- D. Thermal energy

Q23 General Science

Which of the following trophic levels is occupied by the tertiary consumers?

- A. Second trophic level
- B. First trophic level
- C. Fourth trophic level ✓
- D. Third trophic level

Q24 General Science

An object of mass 12 kg is located such that its potential energy relative to the ground is 480 J. Assuming $g = 10 \text{ m s}^{-2}$, what is the height (h) of the object?

- A. 4 m ✓
- B. 40 m
- C. 120 m
- D. 2 m

Q25 General Science

What happens to the egg if it is NOT fertilised?

- A. It lives for about one day and then disintegrates. ✓
- B. It implants in the uterus.
- C. It becomes an embryo.
- D. It survives for a week.



General Science

25 Questions • Answer Key

Q1 General Science

Why do epithelial tissues have very little space between their cells?

- A. To facilitate movement of muscles
- B. To allow rapid blood flow
- C. To enable them to transmit electrical signals
- D. To create an effective barrier regulating permeability of substances ✓

Q2 General Science

Which of the following is/are used in poultry farming?

- A. Sardines
- B. Catla
- C. Leghorn breed ✓
- D. Prawns

Q3 General Science

Atomic radius is usually measured in:

- A. millimetres
- B. nanometres ✓
- C. centimetres
- D. decimetres

Q4 General Science

Metals low in the activity series, such as gold and silver, are typically found in their free state in nature, because:

- A. they react vigorously with acids
- B. they are very unreactive ✓
- C. they are highly reactive with oxygen and water
- D. they have very low melting points

Q5 General Science

Which of the following statements correctly explains the variety in the shape and size of cells?

- A. The shape and size of cells are related to the specific function they perform. ✓
- B. The shape and size of cells are identical in plants and animals.
- C. The shape and size of all cells remain constant in every organism.
- D. The shape and size of cells depend only on the availability of water.

Q6 General Science

Which of the following analogies did Thomson use to describe his atomic model?

- A. Christmas pudding ✓
- B. Nuclear core-shell
- C. Solar system
- D. Planetary system

Q7 General Science

The main iron gate of your building rusts over time due to:

- A. pollution
- B. moisture and oxygen ✓
- C. dirt
- D. high temperature

Q8 General Science

Select the correct reason as to why glucose and alcohol do NOT conduct electricity?

- A. They are acidic in nature.
- B. They do not form ions in solution. ✓
- C. They are made of metal.
- D. They evaporate quickly.



Q9 General Science

Which of the following is an asexual method of reproduction in organisms like amoeba?

- A. Fragmentation
- B. Binary fission
- C. Spore formation
- D. Budding

Q10 General Science

Which of the following is the correct reason for NOT being able to hear sound on the Moon?

- A. The Moon has no atmosphere.
- B. The Moon is very far away from the Earth.
- C. The Moon is very cold.
- D. The Moon has craters.

Q11 General Science

Which of the following statements is/are correct?

A) When a compound consists of a metal and a non-metal, the name or symbol of the metal is written first.
B) When a compound consists of a metal and a non-metal, the name or symbol of the non-metal is written first.
C) The valency or charges on the ion must balance.

- A. Only A
- B. Only C
- C. A, B and C
- D. Only A and C

Q12 General Science

A solid cube of wood has a density less than water. When it is placed in water, which of the following statements is correct?

- A. The cube will remain suspended in the middle of water.
- B. The cube will float with its entire volume above the water surface.
- C. The cube will float partially submerged, displacing water equal to its weight.
- D. The cube will completely sink to the bottom.

Q13 General Science

Fish have hearts with _____ chambers and their blood passes through the heart only _____ in one complete cycle.

- A. two; once
- B. three; twice
- C. two; twice
- D. four; once

Q14 General Science

Which of the following spiny seeds with hooks are dispersed by animals by attaching to their bodies?

- A. Drumstick
- B. Madar
- C. Sunflower
- D. Xanthium

Q15 General Science

A lens with a shorter focal length (f) has _____.

- A. More power
- B. Equal power as a lens with a longer focal length (f)
- C. Zero power
- D. Less power

Q16 General Science

Which of the following is NOT an example of inertia?

- A. Dust falling off a carpet when beaten
- B. A ball rolling on a frictionless surface forever
- C. A book sliding on a rough surface and stopping
- D. Passenger falling forward when a bus stops suddenly

Q17 General Science

Which of the following contrasting visible characters of garden peas are NOT used by Mendel?

- A. Green/white seeds
- B. Tall/short plants
- C. White/violet flowers
- D. Round/wrinkled seeds



Q18 General Science

Which crop variety improvement method involves selecting parents with desirable traits and crossing them?

- A. Hybridisation** ✓
- B. Mutation
- C. Tissue Culture
- D. Genetic Engineering

Q19 General Science

Which of the following statements accurately describes the characteristic of electrons in an atom?

- A. They are positively charged.
- B. They revolve around the nucleus in fixed orbits.** ✓
- C. They have the same mass as protons.
- D. They are located in the nucleus.

Q20 General Science

The fundamental property that qualifies magnetic field as a vector quantity is that it possesses both _____.

- A. mass and density
- B. force and time
- C. direction and magnitude** ✓
- D. charge and potential difference

Q21 General Science

What is the dark layer that develops on silver upon its corrosion?

- A. Copper oxide
- B. Silver sulphide** ✓
- C. Iron oxide
- D. Zinc oxide

Q22 General Science

When an object is moved slowly and gradually closer to a convex mirror from infinity towards the pole (P), what can we say about the image?

- A. Moves from the pole (P) towards the principal focus (F)
- B. Moves from the principal focus (F) towards the pole (P)** ✓
- C. Moves away from the mirror
- D. Remains at the principal focus (F)

Q23 General Science

A stone tied to a string and whirled in a circle exhibits _____.

- A. non-uniform motion
- B. circular motion** ✓
- C. uniform straight-line motion
- D. linear motion with increasing speed

Q24 General Science

Which of the following forms of energy will be possessed by a body of mass 'm' moving with a uniform velocity 'v'?

- A. Heat Energy
- B. Kinetic Energy** ✓
- C. Potential Energy
- D. Sound Energy

Q25 General Science

Three resistors of $2\ \Omega$, $3\ \Omega$, and $5\ \Omega$ are connected in series. The total resistance is:

- A. $3.33\ \Omega$
- B. $1\ \Omega$
- C. $0.1\ \Omega$
- D. $10\ \Omega$** ✓



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following statements is correct about acceleration?

- A. Acceleration is positive when it is opposite to the direction of velocity.
- B. The SI unit of acceleration is m/s.
- C. Acceleration is always positive, regardless of direction.
- D. Acceleration is negative when it acts opposite to the direction of velocity. ✓

Q2 General Science

Which of the following is the correct sequence of events of sexual reproduction?

- A. Embryo → Zygote → Fertilisation → Foetus
- B. Fertilisation → Zygote → Embryo → Foetus ✓
- C. Zygote → Fertilisation → Embryo → Foetus
- D. Foetus → Embryo → Zygote → Fertilisation

Q3 General Science

Which of the following refining methods is very important commercially?

- A. Ionic methods
- B. Chemical methods ✓
- C. Physical methods
- D. Electrochemical methods

Q4 General Science

For a body moving in a straight line, if the distance covered from point A to point B is 10 km, then which of the following statements is true regarding the displacement of the body from point A to point B?

- A. The displacement is equal to 10 km. ✓
- B. The displacement is always zero.
- C. The displacement must be greater than 10 km.
- D. The displacement is always less than 10 km.

Q5 General Science

A rainbow, which is a natural spectrum appearing in the sky after a rain shower, is primarily caused by which action of water droplets on sunlight?

- A. Refraction and dispersion, followed by internal reflection, and then final refraction ✓
- B. Only total internal reflection
- C. Internal reflection followed by scattering
- D. Light bending due to changes in air density

Q6 General Science

Heating calcium carbonate produces calcium oxide and carbon dioxide. This is an example of which type of chemical reaction?

- A. Decomposition ✓
- B. Double displacement
- C. Combination
- D. Displacement

Q7 General Science

Which statement accurately describes a key difference between mixtures and compounds regarding separation?

- A. Their components can be separated by physical methods. ✓
- B. They have a sharp melting and boiling point.
- C. They are always formed with an absorption of heat.
- D. The identity of the original substances is lost.

Q8 General Science

Which of the following shows the correct chain of events when a vibrating body produces sound?

- A. Sound → Vibration → Medium vibration → Ear detects
- B. Vibration → Particles of medium vibrate → Sound wave propagates → Sound is heard ✓
- C. Vibration → Electricity → Sound
- D. Vibration → Light → Heat → Sound



Q9 General Science

Which of the following is NOT correct?

A. Pressure in a fluid depends on the shape of the container



B. Pressure in a fluid acts in all directions

C. Pressure in a fluid increases with depth

D. Pressure = force/area

Q10 General Science

Which of the following is a form of mechanical energy?

A. Kinetic energy



B. Heat energy

C. Chemical energy

D. Sound energy

Q11 General Science

In galvanisation process, which of the following metals is used to depositing the layer on iron?

A. Zinc



B. Silver

C. Platinum

D. Iron

Q12 General Science

The correct IUPAC name of CH_3COCH_3 is:

A. propanone, a ketone with the carbonyl on the middle carbon



B. propanal, with an aldehyde group on a three-carbon chain

C. propanoic acid, with a carboxylic acid at the terminal carbon

D. propene, an alkene with a double bond between two carbons

Q13 General Science

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Precipitation reactions produce soluble salts.

Reason (R): Precipitation reactions involve exchange of ions in solution.

A. Both A and R are true, and R is the correct explanation of A.

B. Both A and R are true, and R is not the correct explanation of A.

C. A is true, but R is false.

D. A is false, but R is true.

**Q14 General Science**

Which of the following reactions is an example of a precipitation reaction?

A. $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2\uparrow$

B. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2\uparrow$

C. $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

D. $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl}\downarrow + \text{NaNO}_3$

**Q15 General Science**

Which type of muscular tissue is present in the wall of the stomach?

A. Cardiac muscle tissue

B. Fluid connective tissue

C. Smooth muscle tissue



D. Skeletal muscle tissue

Q16 General Science

The strength of the magnetic field around a straight wire depends on:

A. Voltage applied

B. Resistance of the wire

C. Length of the wire only

D. Current and distance from the wire



Q17 General Science

Why does the Sun appear to rise earlier and set later than it actually does?

- A. Because of atmospheric refraction ✓
- B. Due to the Moon's gravitational influence on sunlight
- C. Due to the Earth's rotation slowing down during sunrise and sunset
- D. Because the Sun moves faster near the horizon

Q18 General Science

Which of the following performs the function of reflex action?

- A. Hypothalamus
- B. Cranium
- C. Pituitary gland
- D. Spinal cord ✓

Q19 General Science

Which of the following practices would conserve the natural forest cover and different forest products?

- A. Deforestation
- B. Grazing in green forest
- C. Burning of forest
- D. Promoting afforestation ✓

Q20 General Science

Which enzyme is responsible for the breakdown of complex sugar molecules into simple glucose in human beings?

- A. Pepsin
- B. Lipase
- C. Amylase ✓
- D. Bile Juice

Q21 General Science

Which type of molecule of an element is characterised by having only one type of atom?

- A. Diatomic
- B. Triatomic
- C. Monoatomic ✓
- D. Polyatomic

Q22 General Science

100 J of heat is produced in an electrical geyser when 1 A current flows through it for 10 secs. How much is the resistance of the geyser?

- A. $1\ \Omega$
- B. $100\ \Omega$
- C. $0.1\ \Omega$
- D. $10\ \Omega$ ✓

Q23 General Science

Which of the following organisms may help in pollination of a flower?

- A. Euglena
- B. Honey bee ✓
- C. Amoeba
- D. Plasmodium

Q24 General Science

Which of the following suits the best for the order of budding in organisms?

1. Bud Formation
2. Cytoplasmic Division
3. Nucleus Division
4. Detachment of Bud

- A. 1 – 2 – 3 – 4
- B. 2 – 1 – 3 – 4
- C. 3 – 1 – 2 – 4
- D. 1 – 3 – 2 – 4 ✓

Q25 General Science

Which of the following processes represents the most specific purpose of meiotic cell division?

- A. Excretion
- B. Respiration
- C. Digestion
- D. Reproduction ✓



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following statements is/are true about the loudness and softness of a sound wave?

- (i) A loud sound has less amplitude as compared to a soft sound.
- (ii) A loud sound has more energy associated with it as compared to a soft sound.
- (iii) The loudness of a sound wave is the measure of the response of the ear to the sound.

- A. Only (i)
- B. Both (ii) and (iii) ✓
- C. Only (iii)
- D. Both (i) and (ii)

Q2 General Science

An image is formed at a distance of 30 cm from a convex mirror when the object is placed 40 cm from the mirror. The magnification produced by the mirror will be _____.

- A. $-3/4$
- B. $+3/4$ ✓
- C. $-4/3$
- D. $+4/3$

Q3 General Science

In a substitution reaction involving an alkane, what happens to the hydrogen atoms of the alkane molecule?

- A. They are completely removed to form double bonds.
- B. They react with oxygen to form water.
- C. They are replaced by other atoms or groups of atoms. ✓
- D. They are added to the molecule to form a larger chain.

Q4 General Science

Which of the following is NOT a property associated with compounds?

- A. The composition of each new substance is always fixed.
- B. Elements react to form new compounds.
- C. The new substance has totally different properties.
- D. The constituents can be separated fairly easily by physical methods. ✓

Q5 General Science

Which of the following is NOT an example of a colloidal solution?

- A. Mist
- B. Milk
- C. Air ✓
- D. Smoke

Q6 General Science

Which of the following statements correctly compares vacuoles in plant and animal cells?

- A. Plant cells have large vacuoles, animal cells have small ones ✓
- B. Both plant and animal cells have equal-sized vacuoles
- C. Vacuoles are absent in both plant and animal cells
- D. Animal cells have larger vacuoles than plant cells

Q7 General Science

Which of the following statement(s) is /are true regarding the work done by a constant force acting on a body?

- (i) The work done by the force can never be zero.
- (ii) If the direction of the force and displacement of the body is same, the work done will be positive.
- (iii) The S.I. unit of work done is joule.

- A. Both (ii) and (iii) ✓
- B. Only (i)
- C. Both (i) and (iii)
- D. Only (ii)

Q8 General Science

Which of the following statements best explains why dry HCl gas does NOT change the colour of dry litmus paper, but aqueous HCl does?

- A. Litmus paper only works in the presence of light.
- B. HCl only releases H^+ ions when dissolved in water. ✓
- C. Dry HCl gas is non-acidic.
- D. Water reacts with litmus, not HCl.



Q9 General Science

Which of the following principles helps reduce pressure on the environment and promotes sustainable living?

- A. Extract as much as possible
- B. Produce more and consume more
- C. Reduce, Reuse, and Recycle
- D. Use and discard

Q10 General Science

Covalent bonds are formed by the:

- A. loss of neutrons
- B. gaining of protons
- C. transfer of electrons
- D. sharing of electrons

Q11 General Science

What is the meaning of the phrase "the DNA copies generated will be similar, but may not be identical"?

- A. All DNA copies are identical clones.
- B. The original DNA is destroyed after copying.
- C. DNA copies may have slight differences.
- D. Each DNA copy is totally unrelated.

Q12 General Science

Which of the following statements is correct about the size of atoms?

- A. Atoms are larger than molecules.
- B. All atoms have the same size.
- C. The size of atoms is in the range of nanometres.
- D. Atoms are visible under an ordinary microscope.

Q13 General Science

What happens to the gravitational force between two objects, if the distance between them is doubled and everything else remains the same?

- A. The force becomes double
- B. The force becomes half
- C. The force becomes one-fourth
- D. The force becomes four times

Q14 General Science

What is the primary purpose of anodising aluminium?

- A. To increase its reactivity with acids
- B. To enhance its corrosion resistance and appearance
- C. To make it softer and more flexible
- D. To make it a better conductor

Q15 General Science

The doctor feels our heartbeats with the help of an instrument called _____.

- A. microscope
- B. radiography
- C. stethoscope
- D. reflex hammer

Q16 General Science

In humans, which parent determines the sex of the child?

- A. Father
- B. Mother
- C. Child's own choice
- D. Both equally

Q17 General Science

Which of the following symbols represents a rheostat?

- A. A zigzag line with an arrow which is drawn across it.
- B. A zigzag line.
- C. A circle with a 'V' inside it.
- D. An 'A' inside a circle

Q18 General Science

When a parallel beam of light passes through a convex lens, after refraction it:

- A. diverges away from the axis
- B. forms a virtual image at infinity
- C. converges to a point on the principal axis
- D. passes undeviated



Q19 General Science

Which part of the human brain controls thinking and learning abilities of a person?

- A. Cerebellum
- B. Hypothalamus
- C. Cerebrum
- D. Medulla

Q20 General Science

If an electric heater consumes 1000 W of power, how much electrical energy does it use in 1 hour?

- A. 1 kWh
- B. 1000 J
- C. 3600 J
- D. 1000 kWh

Q21 General Science

Which of the following situations represents balanced force?

- A. A ball falling freely under gravity.
- B. Two people push a box from opposite sides with equal force.
- C. A moving car comes to rest when brakes are applied.
- D. A person riding a bicycle uphill.

Q22 General Science

A ball is released from rest at the top of an inclined smooth plane of length 5 cm. After reaching the bottom it travels horizontally on a smooth surface. How much distance will it travel horizontally? (Neglect the frictional forces as both the plane and surface are smooth)

- A. 0 cm
- B. 2.5 cm
- C. Infinite.
- D. 5 cm

Q23 General Science

Which of the following types of reproduction ensures that offspring inherit features from both parents in animals?

- A. Sexual reproduction
- B. Budding
- C. Binary fission
- D. Cloning

Q24 General Science

Which of the following statements are correct in relation to the extraction of metals?

- a. The metals which lie high in the reactivity series are extracted by the electrolysis of molten ore.
- b. The metals of medium reactivity series exist as sulphides and carbonates in nature.
- c. It is easier to extract a metal from its sulphide in comparison to oxides.

- A. Only a and c
- B. All a, b, and c
- C. Only b and c
- D. Only a and b

Q25 General Science

What is the main function of epithelial tissue in animals?

- A. It connects muscles and bones for body movement.
- B. It covers and protects organs and cavities of the body.
- C. It provides mechanical support and shape to organs.
- D. It transports gases and hormones throughout the body.



General Science

25 Questions • Answer Key

Q1 General Science

What is generally produced when a metal reacts with an acid?

A. Salt and hydrogen gas



B. Salt only

C. Salt and oxygen

D. Salt and water

Q2 General Science

Which of the following is a characteristic of a colloidal solution?

A. Particles are invisible under a microscope

B. Particles scatter a beam of light



C. Particles settle down on standing

D. Particles can be separated by filtration

Q3 General Science

Which of the following leads to significant damage to the ozone layer in the atmosphere?

A. Oxygen

B. Carbon dioxide

C. Chlorofluorocarbons (CFCs)



D. Methane

Q4 General Science

What happens to biodegradable substances when they are released in the environment?

A. They persist forever.

B. They get broken down into simpler components.



C. They get converted into toxic chemicals.

D. They deplete the ozone layer.

Q5 General Science

The phenomenon in which different parts of the plant, like root, stem and leaves, develop into new plants under appropriate conditions is called _____.

A. Regeneration

B. Fertilisation

C. Sexual reproduction

D. Vegetative propagation



Q6 General Science

When you shake a tree, fruits fall because of _____.

A. Gravity and Inertia of rest



B. Gravity only

C. Air pressure

D. Inertia of motion

Q7 General Science

A straight conductor carrying current is placed parallel to a uniform magnetic field. The force on the conductor will be:

A. zero



B. half the maximum

C. infinite

D. maximum

Q8 General Science

Which of the following is a chemical change?

A. Ice melting

B. Combustion of petrol



C. Mixing salt and water

D. Evaporation of water

Q9 General Science

The skin on the face is primarily made up of which epithelial tissue?

A. Ciliated

B. Squamous



C. Cuboidal

D. Columnar

Q10 General Science

In electrolytic refining, the impure metal is used as which of the following?

A. Anode



B. Electrolyte

C. Salt

D. Cathode



Q11 General Science

Which of the following instruments is used to determine the purity of a milk sample?

- A. Thermometer
- B. Lactometer
- C. Barometer
- D. Hydrometer

**Q12 General Science**

Which statement best describes an olfactory indicator?

- A. A solid that dissolves in both acids and bases
- B. A gas that reacts only with strong acids
- C. A liquid that changes colour in all solutions
- D. A substance that changes smell in acids and bases

**Q13 General Science**

According to the right-hand thumb rule, if the thumb points in the direction of current, then the fingers show:

- A. direction of electric force
- B. direction of resistance
- C. direction of magnetic field lines
- D. direction of voltage

**Q14 General Science**

To get a virtual, erect and enlarged image using a spherical mirror, the object must be placed _____.

- A. at the principal focus (F) of a concave mirror
- B. at the centre of curvature (C) of a concave mirror
- C. between the pole (P) and the principal focus (F) of a concave mirror
- D. at the principal focus (F) of a convex mirror

**Q15 General Science**

Cells differ in shape and size according to the work they perform in living organisms. Which of the following correctly compares a cell's shape with its function?

- A. Nerve cell – Round in shape, stores food
- B. Red blood cell – Long and branched, transmits messages
- C. Muscle cell – Flat and disc-shaped, carries oxygen
- D. Amoeba – Irregular in shape, helps in movement and capturing food

**Q16 General Science**

The main reason an echo is NOT heard clearly in a small room is:

- A. Sound intensity decreases too quickly over short distances
- B. Sound frequency is too high
- C. Sound travels too slowly
- D. Time interval between original sound and echo is too short

**Q17 General Science**

What distinguishes rough ER (RER) from smooth ER (SER)?

- A. Presence of ribosomes on RER, absence on SER
- B. Presence of chlorophyll on RER, absence on SER
- C. Absence of proteins in RER, presence in SER
- D. Absence of membranes in RER, presence in SER

**Q18 General Science**

Which property most definitively distinguishes a suspension from a colloid?

- A. Settling of particulates under gravitational force
- B. Homogeneity of the mixture
- C. Formation of covalent solute-solvent bonds
- D. Absence of light scattering under illumination

**Q19 General Science**

What is the purpose of enrichment of ore before extraction?

- A. To increase weight
- B. To convert it into salt
- C. To remove impurities
- D. To remove moisture

**Q20 General Science**

The newton (N) is the SI unit of force. Which of the following expresses one newton (N) in terms of the fundamental SI units (kilogram, metre and second)?

- A. $\text{kg.m}^2/\text{s}$
- B. kg.m/s^2
- C. $\text{kg/m}^2.\text{s}$
- D. kg.m.s



Q21 General Science

An object is placed at a distance of 40 cm from a convex lens of focal length 10 cm, such that an image is formed at a distance of X cm from the lens. What is the value of X?

A. $+40/3$



B. +8

C. $-40/3$

D. -8

Q22 General Science

What would you call the middle elongated part of the female reproductive part of a flower?

A. Style



B. Ovary

C. Stigma

D. Pollen grain

Q23 General Science

A stone of mass 500g is raised from ground to a height of 20 m. What is the gain in its potential energy?

(Take $g=10 \text{ m/s}^2$)

A. 100 J



B. 150 J

C. 50 J

D. 200 J

Q24 General Science

Which of the following 'indicators' is used to test the nature of solutions besides litmus paper?

A. Sugar and water

B. Table salt and vinegar

C. Turmeric and red cabbage juice



D. Sand and alcohol

Q25 General Science

The process of seed dispersal helps in:

A. increasing seed size

B. promoting self-pollination

C. colonising new habitats



D. forming new flowers on the same plant



General Science

25 Questions • Answer Key

Q1 General Science

If an object is kept at the focus F of a convex lens, where will the image be formed?

- A. At infinity, virtual and magnified
- B. At infinity, highly magnified, real ✓
- C. At 2F, real and same size as object
- D. Between F and 2F, real and magnified

Q2 General Science

Burrs with hooks or spines are commonly dispersed by which of the following?

- A. Gravity
- B. Water
- C. Animals ✓
- D. Air

Q3 General Science

A long straight conductor carries current vertically upwards. What will be the direction of magnetic field at a point lying to the east of the wire?

- A. Towards south ✓
- B. Towards west
- C. Towards east
- D. Towards north

Q4 General Science

Why is the plasma membrane called a selectively permeable membrane?

- A. It allows free and equal movement of all substances.
- B. It allows only certain substances to pass through while restricting others. ✓
- C. It prevents all materials from entering or leaving the cell.
- D. It controls energy production for the entire cell.

Q5 General Science

A force of 10 N causes mass m_1 to accelerate at 20 m/s^2 and mass m_2 to accelerate at 40 m/s^2 . What acceleration will the same force produce if both masses are tied together?

- A. 26.7 m/s^2
- B. 6 m/s^2
- C. 13.3 m/s^2 ✓
- D. 10 m/s^2

Q6 General Science

Which of the following statements about neurons is INCORRECT?

- A. Neurons lack a nucleus. ✓
- B. A neuron is made of three parts: dendrites, cell body and axon.
- C. Dendrites receive signals.
- D. Axon sends signals out.

Q7 General Science

What is the chemical name of baking soda?

- A. Sodium sulphate
- B. Sodium hydrogen carbonate ✓
- C. Sodium hydroxide
- D. Sodium carbonate

Q8 General Science

Which of the following changes involves both heat absorption and a change in state from solid to liquid?

- A. Melting of ice ✓
- B. Sublimation of camphor
- C. Freezing of water
- D. Condensation of steam



Q9 General Science

In cattle farming, milk-producing buffaloes are called _____.

- A. broilers
- B. layers
- C. milch
- D. shellfish

**Q10 General Science**

Which part of the eye controls the size of the pupil by adjusting to light?

- A. Retina
- B. Iris
- C. Cornea
- D. Crystalline lens

**Q11 General Science**

The reaction $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ is an example of:

- A. Displacement reaction
- B. Decomposition reaction
- C. Precipitation reaction
- D. Double displacement reaction

**Q12 General Science**

Which of the following statements is NOT correct about an electric circuit?

- A. Current is a result of flow of electrons
- B. Current flows in an open circuit
- C. A switch helps to open or close the circuit
- D. The direction of conventional current is opposite to the flow of electrons

**Q13 General Science**

What happens after fertilisation in the human female reproductive system?

- A. The embryo develops in the ovary and is nourished by the cervix.
- B. The fertilised egg divides to form an embryo, which implants in the uterine lining.
- C. The zygote immediately becomes a foetus in the vagina.
- D. The fertilised egg stays in the fallopian tube and develops there.

**Q14 General Science**

An athlete moves on a circular path with uniform speed, completing one revolution in a fixed time. Which of the following statements is correct?

- A. The athlete's velocity remains constant in both magnitude and direction.
- B. The athlete's speed decreases continuously as they move along the path.
- C. The motion is a non-uniform circular motion.

- D. The athlete moves with constant speed, which equals the distance travelled in one revolution divided by the time for that revolution.

**Q15 General Science**

Movement of gases such as CO_2 or O_2 across the cell membrane occurs by _____, from _____ concentration to _____ concentration.

- A. diffusion; high; low
- B. osmosis; low; high
- C. endocytosis; equal; equal
- D. active transport; low; high

**Q16 General Science**

The type of pollination where pollen grains are transferred from one flower to another of the same species through wind is called _____.

- A. anemophily
- B. ornithophily
- C. hydrophily
- D. entomophily

**Q17 General Science**

The number of protons in an element with atomic number 10 is:

- A. 8
- B. 10
- C. 6
- D. 5

**Q18 General Science**

Which of the following hydrocarbons contains a branched chain?

- A. Butane
- B. Ethene
- C. Isobutane
- D. Methane



Q19 General Science

The process of converting farm waste material into decomposed matter rich in organic matter and nutrients is called:

- A. Composting ✓
- B. Fertilization
- C. Pollination
- D. Green Manuring

Q20 General Science

Diffusion of particles is faster in:

- A. cold liquids with large molecules
- B. gases at high temperatures ✓
- C. solids with strong attractions
- D. water with low kinetic energy

Q21 General Science

Two objects of different masses are dropped from the same height in vacuum. Which one will reach first?

- A. The lighter one reaches first.
- B. The heavier one reaches first.
- C. Both reach the ground at the same time. ✓
- D. Both reach at different times, depending on shape and size.

Q22 General Science

In the reaction $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$, which substance is oxidised and which substance is reduced?

- A. MnO_2 is reduced, HCl is oxidised ✓
- B. MnO_2 is reduced, MnCl_2 is oxidised
- C. MnO_2 is oxidised, HCl is reduced
- D. MnCl_2 is oxidised, Cl_2 is reduced

Q23 General Science

Which of the following best describes mechanical energy?

- A. The sum of light energy and chemical energy
- B. Energy stored in food and fuel
- C. Energy from the Sun
- D. The sum of potential energy and kinetic energy ✓

Q24 General Science

Which of the following statements properly differentiates between a mixture and a compound?

- A. A mixture has a fixed composition, while the composition of compounds is variable.
- B. A mixture shows different properties, while a compound has entirely same properties from its constituent elements
- C. A mixture has a variable composition, while the composition of compounds is fixed. ✓
- D. The mixture can be separated by chemical methods, while compounds can be separated by physical method.

Q25 General Science

In a sound wave, the particles of the medium ____.

- A. rotate continuously
- B. vibrate along the direction of wave propagation ✓
- C. vibrate perpendicular to the direction of wave propagation
- D. do not vibrate



General Science

25 Questions • Answer Key

Q1 General Science

The unicellular organism amoeba has a _____ shape.

- A. fixed
- B. sleeper
- C. changing
- D. star



Q2 General Science

Read the given assertion (A) and reason (R) and select the most appropriate option.

(A): The onset of puberty in females occurs earlier than in males, but both attain their final height by 18–20 years of age.

(R): Although puberty begins later in males, their growth spurt is more rapid than in females.

- A. Both (A) and (R) are true but (R) is not the correct explanation of (A)
- B. (A) is true but (R) is false
- C. Both (A) and (R) are true and (R) is the correct explanation of (A)
- D. (A) is false but (R) is true



Q3 General Science

Stars appear to twinkle in the night sky because _____.

- A. Light from stars undergoes atmospheric refraction
- B. The distance between stars and Earth keeps varying
- C. Stars move rapidly in the sky
- D. They change their brightness continuously



Q4 General Science

At which location on the Earth's surface would a standard object experience the maximum acceleration due to gravity (g)?

- A. The Equator
- B. Tropic of Cancer
- C. The Poles
- D. Tropic of Capricorn



Q5 General Science

Where is a reflex arc formed in the body?

- A. Fore brain
- B. Spinal cord
- C. Hind brain
- D. Muscle



Q6 General Science

What is the colour of copper oxide when it is added to the dilute sulphuric acid to forming a blue-green solution?

- A. White
- B. Grey
- C. Green
- D. Black



Q7 General Science

Which of the following is the correct unit for measuring the work done by a force?

- A. Pascal
- B. Coulomb
- C. Newton
- D. Joule



Q8 General Science

The right-hand thumb rule is used to find which of the following?

- A. Direction of force on a current-carrying conductor
- B. Magnitude of current
- C. Direction of magnetic field around a current-carrying conductor
- D. Resistance of the wire



Q9 General Science

Select the correct statement for asexual reproduction in plants.

- A. It occurs rapidly during unfavourable conditions.
- B. It involves formation of gametes.
- C. It is found in both lower and higher plants.
- D. It involves male and female flowers.



Q10 General Science

Which of the following is an example of compound?

- A. Iron
- B. Hydrogen
- C. Mercury
- D. Sugar

**Q11 General Science**

Which of the following is the characteristic property of a non-metal?

- A. Poor conductor of electricity
- B. Ductility
- C. High melting point
- D. Sonorous

**Q12 General Science**

What are the products formed when metal carbonates react with an acid?

- A. Water, carbon dioxide
- B. Salt, water, carbon monoxide
- C. Salt, water, carbon dioxide
- D. Salt, carbon monoxide

**Q13 General Science**

Bleaching powder is prepared by the reaction of:

- A. calcium carbonate with chlorine gas
- B. sodium hydroxide with chlorine gas
- C. calcium hydroxide with hydrochloric acid
- D. calcium hydroxide with chlorine gas

**Q14 General Science**

According to Bohr's model, electromagnetic radiations possess dual character properties behaving like:

- A. sound and waves
- B. mass and magnetic effect
- C. waves and particles
- D. waves and electrons

**Q15 General Science**

Which of the following statements is/are true for a domestic circuit?

- (i) All the appliances are connected in parallel.
- (ii) The live wire in the domestic circuit has green insulation on it.
- (iii) A fuse connected to the circuit allows excessive current to pass through the appliances.
- (iv) The neutral wire in the domestic circuits has black insulation on it.

- A. Both (i) and (iii)
- B. Both (ii) and (iv)
- C. Both (i) and (iv)
- D. Both (ii) and (iii)

**Q16 General Science**

Why are climate-resistance hybrid crop varieties important for future farming?

- A. Hybrid crops are unaffected by unpredictable weather
- B. Hybrid crops reduce the role of farmers
- C. Hybrid crops are easier to store
- D. Hybrid crops look more attractive

**Q17 General Science**

What is the mass number of an element defined as?

- A. Number of protons
- B. Sum of the number of protons and neutrons
- C. Sum of the number of electrons and protons
- D. Number of neutrons

**Q18 General Science**

Which description best defines cytoplasm?

- A. Genetic material present in the form of chromatin
- B. Rigid layer outside the plasma membrane providing support
- C. Fluid content inside the plasma membrane containing organelles
- D. Network of tubes involved in protein transport within the cell



Q19 General Science

In uniform circular motion, the speed of the body:

- ☒ A. remains constant
- ☐ B. changes continuously
- ☐ C. becomes zero at every point
- ☐ D. depends on the radius only

Q20 General Science

For spherical mirrors of small apertures, the relation between the radius of curvature (R) and focal length (f) is:

- ☐ A. $R = 3f$
- ☒ B. $R = 2f$
- ☐ C. $R = f$
- ☐ D. $R = f/2$

Q21 General Science

Why do we spread cloths while putting them for drying in open sky?

- a. Increasing the surface area will increase the rate of evaporation
- b. Increase in wind speed will not allow the cloth to fly
- c. To remove wrinkles

- ☐ A. Only a and b
- ☐ B. a, b and c
- ☒ C. Only a
- ☐ D. Only a and c

Q22 General Science

Which of the following is a characteristic of the onset of puberty in boys?

- ☐ A. Growth of liver
- ☐ B. Growth of hairs on head
- ☐ C. Growth of pineal gland
- ☒ D. Growth of a moustache

Q23 General Science

The stethoscope works on which principle?

- ☐ A. Dispersion of sound
- ☒ B. Multiple reflection of sound
- ☐ C. Diffraction of sound
- ☐ D. Refraction of sound

Q24 General Science

If a cell lacks a functional Golgi complex, it would mainly fail in _____.

- ☐ A. controlling cell division
- ☐ B. protein synthesis only
- ☒ C. packaging and secretion
- ☐ D. formation of ATP

Q25 General Science

Which of the following statements is true about an unbalanced force acting on an object?

- ☐ A. It always increases the mass of the object.
- ☒ B. It brings the object in motion.
- ☐ C. It keeps the object at rest.
- ☐ D. It has no effect on the object's state of motion.



General Science

25 Questions • Answer Key

Q1 General Science

Which of these processes begins after pollen lands on the stigma of a flower?

- A. The petals open wider.
- B. It develops into a seed directly.
- C. A pollen tube grows through the style to reach the ovary. ✓
- D. The leaves begin photosynthesis immediately.

Q2 General Science

In India, cows are classified under which scientific species name?

- A. *Bos taurus*
- B. *Bos bubalis*
- C. *Bubalus bubalis*
- D. *Bos indicus* ✓

Q3 General Science

Which of the following statements are correct for benzene?

- a. It is a six-membered cyclic carbon compound.
- b. It has three single and three double bonds.
- c. The molecular formula is C_6H_{14} .

- A. Only a and b ✓
- B. Only a and c
- C. a, b and c
- D. Only b and c

Q4 General Science

For a given wave, if the speed becomes three times and the wavelength becomes three times, the frequency ____.

- A. becomes three times
- B. remains the same ✓
- C. becomes nine times
- D. becomes one-third

Q5 General Science

Which is the main transport system in animals?

- A. Circulatory system ✓
- B. Respiratory system
- C. Muscular system
- D. Nervous system

Q6 General Science

Which of the following methods will NOT help in the management of garbage and other wastes produced by humans?

- A. Landfilling plastics in soil ✓
- B. Treating wastes before release
- C. Following 3R's (Reduce, Reuse, Recycle)
- D. Vermicomposting

Q7 General Science

What is the IUPAC rule for writing element symbols?

- A. Two lowercase letters always used (in case of two letters)
- B. Symbols written in numeric codes
- C. First letter uppercase, second lowercase (in case of two letters) ✓
- D. Both letters always in uppercase form (in case of two letters)

Q8 General Science

A science teacher asks students to measure the current through a bulb using an ammeter. What precaution must the students follow?

- A. Connect the ammeter without a battery
- B. Connect the ammeter with reversed polarity
- C. Connect the ammeter in parallel with the bulb
- D. Connect the ammeter in series with correct polarity ✓



Q9 General Science

Which method is used to purify metals like Zinc and Copper?

- A. Alloying
- B. Electrolytic refining ✓
- C. Roasting
- D. Smelting

Q10 General Science

What does the Law of Conservation of Mass state?

- A. Mass of reactants is always lost
- B. Energy can be converted into mass
- C. Mass remains unchanged in reactions ✓
- D. Mass of products is always greater

Q11 General Science

Which of the following statements is true?

- A. The magnetic field lines inside a solenoid are circular.
- B. The magnetic field inside a solenoid carrying current does not depend on the strength of the current.
- C. On increasing the number of turns per unit length in a solenoid, the strength of the magnetic field in the solenoid increases. ✓
- D. On increasing the resistance of the wire, the strength of the magnetic field in a solenoid increases.

Q12 General Science

When applying the sign conventions for spherical lenses to measure object and image distances, where are all measurements taken from?

- A. The principal focus
- B. The centre of curvature
- C. The optical centre of the lens ✓
- D. The pole of the lens

Q13 General Science

When is a neutral salt formed?

- A. When strong acid reacts with weak base
- B. When weak acid reacts with strong base
- C. When acid reacts with metal
- D. When strong acid reacts with strong base ✓

Q14 General Science

Which of the following statements best describes autotrophic nutrition?

- A. It involves direct absorption of organic compounds from other organisms.
- B. It depends entirely on consuming other living organisms for food.
- C. It requires digestion of complex substances outside the body.
- D. It involves making food using carbon dioxide and water in the presence of sunlight. ✓

Q15 General Science

When is the work done by a force considered negative?

- A. When the force acts opposite to the direction of displacement ✓
- B. When there is no displacement
- C. When the force acts in the same direction as displacement
- D. When the force is zero

Q16 General Science

Momentum (p) is a vector quantity. That means, momentum has both _____.

- A. speed and time
- B. magnitude and direction ✓
- C. force and acceleration
- D. mass and velocity

Q17 General Science

Which of the following is a key feature of offsprings produced through vegetative propagation?

- A. They require fertilisation to develop.
- B. They are genetically diverse from the parent plant.
- C. They are genetically identical to the parent plant. ✓
- D. They always grow slower than seed-grown plants.

Q18 General Science

Which of the following correctly matches a floral part with its primary biological function in reproduction?

- A. Pistil – attraction of pollinators
- B. Petals – production of female gametes
- C. Sepals – development of ovules
- D. Stamens – production of pollen grains ✓



Q19 General Science

Which of the following is a pure substance consisting of only one type of atom?

A. Sodium



B. Milk

C. Air

D. Water

Q20 General Science

Which of the following is NOT an application of Archimedes' Principle?

A. Determining the density of an irregular solid

B. Submarine floating and diving

C. Calculating buoyant force on a body in fluid

D. Measuring electrical resistance of a wire

**Q21 General Science**

Which of the following represents non-uniform linear velocity?

A. A train starting from rest



B. A ball rolling at uniform rate

C. A body moving in a straight line at fixed speed

D. A car moving at constant speed

Q22 General Science

Which of the following statements is correct about the definition of complex permanent tissues?

A. Complex permanent tissues are made up of different types of cells performing different tasks.



B. Complex permanent tissues are made up of similar type of cells.

C. Complex permanent tissues are made of simple permanent tissues.

D. Complex permanent tissues are made up of different types of cells performing similar tasks.

Q23 General Science

If an object is placed at the centre of curvature of a concave mirror, the image formed will be:

A. at the focus, real and diminished

B. between focus and pole, virtual and erect

C. at the centre of curvature itself, real and of the same size



D. at infinity, virtual and magnified

Q24 General Science

A small amount of copper oxide taken in a beaker and dilute hydrochloric acid is added to it slowly while stirring, results in:

A. formation of reddish-brown colour solution of copper chloride

B. formation of reddish-brown colour solution of cupric chloride

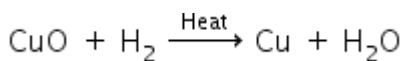
C. formation of bluish-green colour solution of copper chloride



D. formation of reddish-brown colour solution of copper sulphate

Q25 General Science

Which of the following species is reduced in the given reaction?



A. O

B. Cu



C. H₂O

D. H₂



General Science

25 Questions • Answer Key

Q1 General Science

Why do passengers in a moving car tend to jerk forward when the brakes are suddenly applied?

- A. Because the brakes push the passengers forward
- B. Because of the inertia of motion that keeps the body moving forward ✓
- C. Due to the force applied by the engine
- D. Because of the friction between the seat and the body

Q2 General Science

Life on earth depends on _____ molecules as the main source of energy for all organisms.

- A. carbon-based ✓
- B. oxygen-based
- C. protein-based
- D. nitrogen-based

Q3 General Science

If the frequency of a vibrating object is 50 Hz, what is its time period?

- A. 5 s
- B. 0.02 s ✓
- C. 2 s
- D. 0.2 s

Q4 General Science

The magnetic field around a straight current-carrying conductor:

- A. points radially outward
- B. forms concentric circles around the conductor ✓
- C. points along the conductor
- D. is zero

Q5 General Science

Ethanoic acid reacts with alcohols to form what compound?

- A. Ketone
- B. Esters ✓
- C. Aldehyde
- D. Alcohols

Q6 General Science

Why are grains first dried in sunlight and then in shade before storage?

- A. To make them soft
- B. To save time
- C. To reduce moisture content and prevent spoilage ✓
- D. To reduce the colour of grains

Q7 General Science

What happens in the female body if the egg is NOT fertilised?

- A. The egg remains in the uterus and turns into an embryo.
- B. The thick uterine lining is retained permanently.
- C. The uterine lining breaks down and is expelled as blood and mucous. ✓
- D. The ovary stops releasing eggs permanently.

Q8 General Science

Which of the following is produced when a carbon compound undergoes complete combustion?

- A. Carbon monoxide and water
- B. Carbon dioxide and water ✓
- C. Carbon and oxygen
- D. Carbon dioxide and hydrogen

Q9 General Science

Why are vesicles important in the functioning of the Golgi apparatus?

- A. They digest waste materials
- B. They help in forming the nucleus
- C. They carry materials to and from the Golgi apparatus ✓
- D. They generate energy needed for packaging in Golgi apparatus



Q10 General Science

An object is placed at 35.0 cm in front of a concave mirror of focal length 25.0 cm. At what distance from the mirror an image is formed?

- A. 8.75 cm
- B. - 87.5 cm
- C. 10 cm
- D. - 8.75 cm

**Q11 General Science**

What name is given to the flat, stacked sacs that make up the Golgi apparatus?

- A. Cristae
- B. Thylakoids
- C. Cisternae
- D. Vesicles

**Q12 General Science**

Where does the heat energy go when the solid melts but its temperature remains the same?

- A. It is used to overcome the forces of attraction between the particles.
- B. It is lost to the surroundings while overcoming the forces of repulsion.
- C. It is lost to the surroundings while overcoming the forces of attraction.
- D. It is used to overcome the forces of repulsion between the particles.

**Q13 General Science**

Which of the following is NOT applicable to the Law of Constant Proportion?

- A. Elements
- B. Mixtures
- C. Compounds
- D. Ionic Compounds

**Q14 General Science**

Conventionally, what is the assigned direction of electric current in an electric circuit, given the flow of electrons?

- A. Same as the movement of atoms
- B. Opposite to the flow of positive charges
- C. Same as the movement of molecules
- D. Opposite to the flow of electrons

**Q15 General Science**

For uniformly accelerated motion, which of the following is true about the velocity–time graph?

- A. The graph is always curved because velocity changes irregularly.
- B. The graph can have any shape depending on the motion.
- C. The graph is a straight line because velocity changes by equal amounts in equal intervals of time.
- D. The graph is horizontal because velocity remains constant.

**Q16 General Science**

A block of mass 1 kg is dropped from the top of a building of height 20 m. What will be the velocity with which the block hits the ground?

(Take the value of $g = 10 \text{ m/s}^2$)

- A. 20 m/s
- B. 40 m/s
- C. $\sqrt{40}$ m/s
- D. $\sqrt{20}$ m/s

**Q17 General Science**

Which of the following correctly represents the strength of attraction between particles in the three states of matter?

- A. Solid < Liquid < Gas
- B. Solid > Gas > Liquid
- C. Gas < Liquid < Solid
- D. Gas > Liquid > Solid

**Q18 General Science**

How can you identify a concave and a convex mirror based on the direction of their reflecting surfaces?

- A. A concave mirror reflects light outward, while a convex mirror reflects it inward.
- B. A concave mirror has its reflecting surface curved inward; a convex mirror has its reflecting surface curved outward.
- C. Both concave and convex mirrors have the same reflecting surface direction.
- D. A concave mirror and a convex mirror both reflect inward.



Q19 General Science

Consider the following statements and select the correct option.

Statement A: Plants require specific soil pH for proper growth.

Statement B: Farmers use pH values to decide the type of fertiliser to add.

- A. Statement A is incorrect but B is correct.
- B. Statement A is correct but B is incorrect.
- C. Both statements A and B are correct.**
- D. Both statements A and B are incorrect.

Q20 General Science

Which of the following is abiotic factor responsible for storage losses in agricultural produce?

- A. Fungi
- B. Insects
- C. Moisture**
- D. Rodents

Q21 General Science

Isotopes of an element have the same number of _____.

- A. Protons**
- B. Electrons
- C. Neutrons
- D. Nucleus

Q22 General Science

A stone falls freely and covers a distance (s) 20 m in time (t) 2.0 s. What is the value of acceleration due to gravity (g)?

- A. 10.0 m/s²**
- B. 12.0 m/s²
- C. 8.0 m/s²
- D. 20.0 m/s²

Q23 General Science

Which structural feature contributes to the high reactivity of unsaturated organic compounds?

- A. Total absence of hydrogen atoms within the compound molecule
- B. Existence of double or triple bonds between carbon atoms**
- C. Incomplete formation of the carbon atom backbone structure
- D. Presence of halogen atoms attached to the carbon framework

Q24 General Science

In human females, if the egg is not fertilised, the monthly shedding of the uterine lining is called which of the following?

- A. Maturation
- B. Fertilisation
- C. Menstruation**
- D. Maintenance

Q25 General Science

Even though ovulation occurs regularly in a female, the uterus lining is shed during menstruation each month. What does this suggest about fertilisation?

- A. The ovary is not releasing eggs
- B. Fertilisation is occurring each time
- C. Fertilisation is not occurring**
- D. The uterus is rejecting the embryo



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is an INCORRECT statement about the endoplasmic reticulum?

- A. The endoplasmic reticulum helps in the transport of materials within the cell, especially between the cytoplasm and the nucleus.
- B. The endoplasmic reticulum stores genetic material in it. ✓
- C. The rough endoplasmic reticulum (RER) has ribosomes attached to its surface, which help in protein synthesis.
- D. The smooth endoplasmic reticulum (SER) is involved in the synthesis of lipids (fat molecules).

Q2 General Science

Who sacrificed her life along with 363 others in 1731 to protect the Khejri trees in Rajasthan?

- A. Amrita Devi Bishnoi ✓
- B. Medha Patkar
- C. Sunita Narain
- D. Vandana Shiva

Q3 General Science

Which of the following examples represents motion along a straight line?

- A. A pendulum swinging
- B. A child running around a park
- C. A train moving on a straight track ✓
- D. A fan blade rotating

Q4 General Science

On mixing sodium bicarbonate with dil. HCl, sodium chloride is formed and a gas is evolved. This gas when passed through lime water turns it milky. The evolved gas is:

- A. CO
- B. CO₂ ✓
- C. H₂
- D. Cl₂

Q5 General Science

A car is moving at a speed of 180 km/h. After the brakes are applied, it comes to a complete stop in 5 seconds. If the total mass of the car along with its passengers is 4200 kg, what is the force applied by the brakes to stop the car?

- A. -15,120 N
- B. -50,000 N
- C. -42,000 N ✓
- D. -36,000 N

Q6 General Science

Which phenomenon, successfully explained by the universal law of gravitation, relies on the combined and differential gravitational attraction exerted by both the moon and the sun on the earth?

- A. The occurrence of ocean tides ✓
- B. The decrease in the value of g from poles to equator
- C. The motion of planets around the Sun
- D. The centripetal force keeping the stone in a circular path

Q7 General Science

A man's pitch is ____ than child's pitch.

- A. same
- B. higher
- C. sometimes higher and sometimes lower
- D. lower ✓

Q8 General Science

How are metals like gold and silver, which are low in reactivity, extracted?

- A. By displacement reaction
- B. By simple heating or chemical methods ✓
- C. By electrolytic reduction
- D. By reacting with acids



Q9 General Science

What is the correct sequence of steps followed in extracting metals like zinc from their sulphide or carbonate ores?

- A. Electrolysis → Roasting → Purification
- B. Dissolution in acid → Filtration → Heating
- C. Roasting or calcination → Reduction to metal → Purification ✓
- D. Direct heating → Purification

Q10 General Science

Applying pressure to a gas causes:

- A. Volume to increase
- B. Particles to come closer ✓
- C. Particles to move faster
- D. Temperature to decrease

Q11 General Science

When BaCl_2 reacts with Na_2SO_4 , the white precipitate is:

- A. Sodium chloride which crystallises
- B. Sodium carbonate which is insoluble
- C. Barium nitrate which is basic
- D. Barium sulphate which is insoluble ✓

Q12 General Science

Which of the following is the main function of skeletal muscles in a human body?

- A. Circulation
- B. Respiration
- C. Excretion
- D. Movement in our body ✓

Q13 General Science

What is the main purpose of creating DNA copies during reproduction?

- A. To make organisms immune to diseases
- B. To change the structure of cells
- C. To pass genetic information to offspring ✓
- D. To produce identical twins

Q14 General Science

Which of the following does NOT occur with an increase in temperature?

- A. Change in state of matter
- B. Decrease in inter-particle space ✓
- C. Increase in kinetic energy
- D. Increase in particle movement

Q15 General Science

During the electrolysis of brine, which of the following correctly matches the products formed at each electrode and in the solution?

- A. Anode – NaOH, Cathode – Cl_2 , Solution – H_2
- B. Anode – Cl_2 , Cathode – H_2 , Solution – NaOH ✓
- C. Anode – Cl_2 , Cathode – NaOH, Solution – H_2
- D. Anode – H_2 , Cathode – Cl_2 , Solution – NaOH

Q16 General Science

If magnification is positive, the image formed is:

- A. on the screen
- B. real
- C. virtual and erect ✓
- D. inverted

Q17 General Science

Which of the following best differentiates a mixture from a compound?

- A. Mixtures can be separated by physical methods, while compounds require chemical methods. ✓
- B. Compounds are heterogeneous in nature, while mixtures are always homogeneous.
- C. Mixtures always have a fixed boiling point.
- D. Compounds retain the individual properties of their components.

Q18 General Science

Which of the following is NOT true about binary fission?

- A. It occurs in unicellular organisms
- B. It leads to population increase
- C. It needs two parents ✓
- D. It is fast and efficient



Q19 General Science

Which part of a neuron carries the nerve impulse away from the cell body?

A. Axon



B. Dendrite

C. Synapse

D. Nucleus

Q20 General Science

Magnetic field is a quantity that has _____.

A. only direction

B. both magnitude and direction



C. neither magnitude nor direction

D. only magnitude

Q21 General Science

Which law did Mendel derive from his monohybrid cross?

A. Law of Segregation



B. Law of Constant Proportion

C. Law of Evolution

D. Law of Independent Assortment

Q22 General Science

The Work-Energy theorem states that the total work done on an object is equal to:

A. Change in the static energy of the body

B. Change in the kinetic energy of the body



C. Change in the potential energy of the body

D. Change in the work and energy of the body

Q23 General Science

Growing of two or more crops simultaneously on the same field is called _____.

A. Mono-cropping

B. Mixed cropping



C. Inter-cropping

D. Intra-cropping

Q24 General Science

At what minimum distance should an object be held from the eyes for clear and comfortable viewing?

A. 25 m

B. 25 cm



C. 250 cm

D. 50 cm

Q25 General Science

Which of the following is the correct unit of resistivity of a material?

A. ohm

B. ohm-meter



C. ohm/meter

D. meter/ohm



General Science

25 Questions · Answer Key

Q1 General Science

Which of the following is NOT a consequence of nutrient deficiency in plants?

- A. Low yield
- B. Affected reproduction
- C. Poor growth
- D. Increased resistance to diseases



Q2 General Science

An electric iron having resistance (R) has a power (P) associated with it when current (I) flows through it on applying potential difference (V) across its ends. Which of the following relations is NOT correct?

- A. $P = V^2/R$
- B. $P = I^2R$
- C. $P = VI$
- D. $P = V/I$



Q3 General Science

In a redox displacement reaction, if element X loses electrons and element Y gains electrons, then:

- A. Both are reduced
- B. X is oxidised and Y is reduced
- C. Both are oxidised
- D. X is reduced and Y is oxidised



Q4 General Science

Salt dissolves in water because:

- A. It melts at room temperature forming a liquid
- B. It has lower density than water and floats easily
- C. Water has space between particles for ions to enter
- D. It evaporates quickly in water during mixing



Q5 General Science

Which of the following is an element?

- A. Air
- B. Sodium chloride
- C. Oxygen
- D. Water



Q6 General Science

Which gas is evolved when a metal reacts with a dilute acid?

- A. Nitrogen
- B. Oxygen
- C. Hydrogen
- D. Carbon dioxide



Q7 General Science

The refractive indices of water, glass and diamond are 1.33, 1.5, and 2.42, respectively. Light travels:

- A. the fastest in water medium
- B. the fastest in glass medium
- C. at the same speed irrespective of the medium
- D. the fastest in diamond medium



Q8 General Science

When an acid reacts with a reactive metal, the products formed are:

- A. A metal oxide and nitrogen gas evolve
- B. An alkali and hydrogen peroxide form
- C. A salt and carbon dioxide gas form
- D. A salt and hydrogen gas are produced



Q9 General Science

A satellite moves in a circular orbit of radius 42,250 km and completes one revolution in 24 hours. If a new satellite orbits at half this radius but maintains the same period, how does the speed (v_{new}) compare to the original speed (v_{orig})?

- A. $v_{\text{new}} = v_{\text{orig}}$
- B. $v_{\text{new}} = 2v_{\text{orig}}$
- C. $v_{\text{new}} = 4v_{\text{orig}}$
- D. $v_{\text{new}} = 0.5v_{\text{orig}}$



Q10 General Science

What was Mendel's contribution to genetics?

A. Laws of Inheritance



B. Inheritance of Acquired Traits

C. Theory of Evolution

D. Discovery of DNA

Q11 General Science

While cooking, steam escapes from a boiling pot and hits the cook's hand. Why does she pull away her hand before feeling the burn?

A. Her hand muscles detect the steam.

B. The spinal cord initiated a reflex action.



C. The heat evaporated quickly.

D. The brain delayed the response.

Q12 General Science

Which of the following is an allotrope of carbon with a cage-like structure?

A. Charcoal

B. Graphite

C. Diamond

D. Fullerene

**Q13 General Science**

During an experiment, a cell is damaged and its lysosomes burst, releasing digestive enzymes into the cytoplasm. What is most likely to happen next?

A. The cell will grow in size.

B. The nucleus will divide rapidly.

C. The cell will destroy itself and die.



D. The mitochondria will produce more energy.

Q14 General Science

The _____ is a dark, spherical structure in the cell, surrounded by a _____ membrane with pores for material exchange.

A. nucleoid; single

B. nucleus; double



C. nucleoid; double

D. vacuole; single

Q15 General Science

Which of the following correctly describes the graphical representation of Ohm's law?

A. A hyperbolic curve

B. An elliptical curve

C. A straight line parallel to x-axis

D. A straight line through the origin

**Q16 General Science**

Which of the following is INCORRECT?

A. Buoyant force is independent of fluid density.



B. Buoyant force is maximum for fully submerged body.

C. Buoyant force = weight of fluid displaced

D. Buoyant force acts upwards.

Q17 General Science

Which of the following is an example of a vibrating body producing sound?

A. A moving car

B. A pendulum swinging silently

C. A ringing tuning fork



D. A stationary fan

Q18 General Science

The outermost orbit can hold maximum how many electrons?

A. 2

B. 8



C. 16

D. 5

Q19 General Science

Work is said to be positive when _____.

A. no displacement occurs

B. force is perpendicular to the displacement

C. force and displacement are in the same direction



D. force and displacement are opposite



Q20 General Science

Which of the following best defines a heterogeneous mixture?

- A. A compound formed by the chemical combination of two or more elements.
- B. A mixture where components are uniformly distributed and indistinguishable.
- C. A mixture where components are not uniformly distributed and can be easily seen as separate. ✓
- D. A pure substance that cannot be broken down further by chemical means.

Q21 General Science

If the slope of a distance-time graph changes continuously, it indicates:

- A. stationary object
- B. instantaneous rest
- C. non-uniform speed ✓
- D. uniform speed

Q22 General Science

What occurs when a detached leaf of Bryophyllum comes into contact with moist soil?

- A. It decomposes.
- B. It shows a loss of chlorophyll.
- C. It absorbs water and grows larger.
- D. It produces new plantlets from notches on the leaf margin. ✓

Q23 General Science

In unicellular organisms, _____ is the method of reproduction.

- A. Fragmentation
- B. Rejuvenation
- C. Fission ✓
- D. Regeneration

Q24 General Science

Select the statement regarding cell organelles that is INCORRECT.

- A. They are membrane-bound structures.
- B. Each cell organelle performs a special function.
- C. They are found in Prokaryotic cells. ✓
- D. They are found in Eukaryotic cells.

Q25 General Science

What is the name of the effect seen when light is scattered by tiny particles in a colloidal solution?

- A. Tyndall Effect ✓
- B. Refraction
- C. Reflection
- D. Dispersion



General Science

25 Questions • Answer Key

Q1 General Science

Select the correct pair of example of 'sublimation'.

- A. Sugar and naphthalene
- B. Salt and camphor
- C. Camphor and naphthalene ✓
- D. Dry ice and salt

Q2 General Science

The slope of a distance-time graph represents the:

- A. speed of the object ✓
- B. distance covered
- C. force on the object
- D. acceleration of the object

Q3 General Science

Which of the following is the correct reason for constructing the ceilings of large halls in a curved shape?

- A. To provide more storage space above the ceiling
- B. To reduce the overall height of the hall
- C. To reduce construction cost
- D. To allow sound to distribute evenly in the hall ✓

Q4 General Science

If an object's velocity changes uniformly over a period of time, how can the average velocity during that time be calculated?

- A. By adding the initial velocity to twice the final velocity
- B. By subtracting the initial velocity from the final velocity
- C. By taking the arithmetic mean of the initial and final velocities ✓
- D. By dividing the final velocity by the initial velocity

Q5 General Science

If the stamens of a flower are non-functional, which process will NOT be done?

- A. Pollen production ✓
- B. Ovule development
- C. Fruit dispersal
- D. Bud protection

Q6 General Science

Which process involves the breakdown of uterine walls when the egg is NOT fertilised?

- A. Menopause
- B. Incubation
- C. Menstruation ✓
- D. Fertilisation

Q7 General Science

Which of the following statements about evaporation is true?

- A. It occurs only at the surface of the liquid ✓
- B. It occurs only at boiling point
- C. It occurs throughout the liquid
- D. It requires no heat

Q8 General Science

A 100 W bulb is connected to a 220 V supply. The current through the bulb is approximately:

- A. 0.45 A ✓
- B. 0.91 A
- C. 1.1 A
- D. 2.2 A

Q9 General Science

As the chest cavity becomes larger, air is _____ into the lungs and fills the expanded _____.

- A. absorbed; diaphragm
- B. pushed; bronchi
- C. forced; ribs
- D. pulled; alveoli ✓



Q10 General Science

Which of the following statements is/are true when two different resistors R_1 and R_2 are connected in parallel to one another in a circuit?

- (i) The potential difference across each of them is same.
- (ii) The current through both of them will be the same.
- (iii) Their equivalent resistance is equal to $R_1 + R_2$.

- A. Both (i) and (iii)
- B. Only (ii)
- C. Both (ii) and (iii)
- D. Only (i)

Q11 General Science

Which acid does NOT give hydrogen gas when treated with metal because of its oxidising nature?

- A. Nitric acid
- B. Sulphuric acid
- C. Acetic acid
- D. Hydrochloric acid

Q12 General Science

Which of the following natural phenomena CANNOT be explained by the Universal Law of Gravitation?

- A. Attraction between magnets
- B. Revolution of the Moon around the Earth
- C. Falling of an apple from a tree
- D. Tides in the ocean

Q13 General Science

The emergent ray from a rectangular glass slab is:

- A. Parallel to the incident ray
- B. Perpendicular to the incident ray
- C. Bent towards the normal
- D. Bent away from the normal

Q14 General Science

What are animals used for tilling, irrigation and carting referred to as?

- A. Milch animals
- B. Draught animals
- C. Carnivorous animals
- D. Wild animals

Q15 General Science

An object is placed at infinity in front of a concave mirror. Where is the image formed?

- A. At the principal focus (F)
- B. Behind the mirror
- C. At the pole (P)
- D. At the centre of curvature (C)

Q16 General Science

Which of the following processes occurs before fertilisation in sexually reproducing plants?

- A. Embryo formation
- B. Seed development
- C. Fruit formation
- D. Pollination

Q17 General Science

Who first observed the densely stained reticular structures near the nucleus, now known as Golgi bodies?

- A. Anton van Leeuwenhoek
- B. Robert Hooke
- C. Camillo Golgi
- D. Matthias Schleiden

Q18 General Science

Match the following body parts with the types of epithelial tissue found in them.

Body parts	Epithelial tissue
A. Kidney tubules	1. Stratified squamous epithelial
B. Surface of skin	2. Cuboidal epithelium
C. Lung alveoli	3. Ciliated columnar epithelium
D. Respiratory tract lining	4. Simple squamous epithelium

- A. A-4, B-2, C-3, D-1
- B. A-1, B-2, C-3, D-4
- C. A-2, B-1, C-4, D-3
- D. A-2, B-3, C-4, D-1



Q19 General Science

Growing wheat and mustard simultaneously on the same piece of land is an example of which of the following?

- A. Monoculture cropping
- B. Jhum cultivation
- C. Crop rotation
- D. Mixed cropping** ✓

Q20 General Science

Which two forms of energy are collectively known as mechanical energy?

- A. Electrical energy and Magnetic energy
- B. Heat and Light energy
- C. Kinetic and Potential energy** ✓
- D. Chemical energy and Nuclear energy

Q21 General Science

What is the atomic mass of magnesium?

- A. 6
- B. 1
- C. 24** ✓
- D. 14

Q22 General Science

How many carbon atoms are present in a benzene ring?

- A. 8
- B. 6** ✓
- C. 5
- D. 4

Q25 General Science

Which of the following is a displacement reaction?

- A. $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
- B. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- C. $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$** ✓
- D. $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$

Q23 General Science

Which method is used to extract metals that are high in the reactivity series?

- A. Roasting
- B. Heating with carbon
- C. Calcination
- D. Electrolytic reduction** ✓

Q24 General Science

Match the following synthetic indicators and colour changes.

Column A (Indicator)	Column B (Colour Change)
A. Red litmus	1. Turns blue in base
B. Blue litmus	2. Turns red in acid
C. Phenolphthalein	3. Colourless in acid, pink in base
D. Methyl orange	4. Red in acid, yellow in base

- A. A-4; B-3; C-2; D-1
- B. A-2; B-1; C-3; D-4
- C. A-1; B-2; C-3; D-4** ✓
- D. A-3; B-4; C-1; D-2



General Science

25 Questions • Answer Key

Q1 General Science

When an object is placed beyond the centre of curvature (C) of a concave mirror, the image formed is:

- A. real, erect and same size as object
- B. real, inverted and smaller than the object ✓
- C. virtual, erect and larger than the object
- D. virtual, inverted and larger than the object

Q2 General Science

The point on the principal axis where rays parallel to the principal axis converge (or appear to diverge) after reflection from a mirror is called which of the following?

- A. Centre of curvature
- B. Aperture
- C. Pole
- D. Principal focus ✓

Q3 General Science

Which of the following statements is NOT correct?

- A. Sound can travel through vacuum. ✓
- B. Sound travels faster in water than in air.
- C. Sound travels slower in gases than in liquids.
- D. Sound travels fastest in solids.

Q4 General Science

Why do we continue to breathe even when we are sitting or sleeping?

- A. To supply oxygen for life processes ✓
- B. To make breathing movements
- C. To give rest to the heart
- D. To let digestion go on

Q5 General Science

What type of gas is released when ethanol reacts with sodium?

- A. Hydrogen ✓
- B. Carbon dioxide
- C. Methane
- D. Oxygen

Q6 General Science

The emergence of a new plant from a seed under favourable environmental conditions is termed as _____.

- A. photosynthesis
- B. fertilisation
- C. germination ✓
- D. pollination

Q7 General Science

What will be the potential energy of a block of mass 30 kg kept at a height of 20 m?

(Take the value of $g = 10 \text{ m/s}^2$)

- A. 60 J
- B. 600 J
- C. 6 J
- D. 6000 J ✓

Q8 General Science

Which of the following is a part of the central nervous system of our body?

- A. Pancreas
- B. Spinal cord ✓
- C. Liver
- D. Stomach

Q9 General Science

If the distance covered is halved and time remains the same, the linear velocity becomes _____.

- A. Same
- B. Half ✓
- C. Zero
- D. Double

Q10 General Science

Which term describes the closeness of particles in solids?

- A. Inter-particle space ✓
- B. Compressibility
- C. Density
- D. Rigidity



Q11 General Science

Which of the following is an example of an object in uniform circular motion?

- A. A satellite orbiting Earth at a constant speed** ✓
- B. A person jogging in a park
- C. A car moving on a crowded street
- D. A train moving on a straight track at varying speeds

Q12 General Science

What is/are the general product(s) of the reaction between a non-metallic oxide and a base?

- A. Water only
- B. Gas and water
- C. Salt and water** ✓
- D. Salt and hydrogen

Q13 General Science

A farmer stores grains from his crop yield in a damp and warm room. After a few weeks, the grains get spoiled and their quantity reduces. What is the most likely reason for this?

- A. Grains were eaten by birds and insects
- B. Grains got washed away with water
- C. Poor irrigation before harvesting
- D. Improper storage conditions** ✓

Q14 General Science

Which of the following is the smallest alkane that can form a stable ring?

- A. Ethane
- B. Methane
- C. Cyclopropane** ✓
- D. Propane

Q15 General Science

Match the Following Substances and Their Ions.

Column A (Substance)	Column B (Ions Produced)
A. HCl	1. H_3O^+ and Cl^-
B. NaOH	2. Na^+ and OH^-
C. KOH	3. K^+ and OH^-
D. $\text{Mg}(\text{OH})_2$	4. Mg^{2+} and 2OH^-

A. A-1; B-2; C-3; D-4 ✓

B. A-4; B-3; C-2; D-1

C. A-3; B-4; C-1; D-2

D. A-2; B-1; C-4; D-3

Q16 General Science

What is the primary reason that the testes are located outside the abdominal cavity in the scrotum?

- A. To facilitate sperm formation as it requires a lower temperature than body temperature** ✓
- B. To reduce the risk of infection
- C. To facilitate easier hormone secretion
- D. To allow proper mixing of sperm and urine

Q17 General Science

Which of the following is usually connected in series in a domestic circuit?

- A. Fan
- B. Main fuse** ✓
- C. All appliances
- D. Electric bulb

Q18 General Science

In multicellular organisms like humans, digestion occurs in:

- A. specialised digestive organs** ✓
- B. nucleus
- C. food vacuoles
- D. entire cell surface

Q19 General Science

How does the weight of an object on the Moon compare to its weight on Earth?

- A. It is one-sixth of its weight on Earth.** ✓
- B. It is six times of its weight on Earth.
- C. It is the same as that on Earth.
- D. It is one-third of its weight on Earth.



Q20 General Science

Why do we feel cool when sweat evaporates from our skin?

- A. Sweat absorbs heat from our skin to evaporate. ✓
- B. Sweat releases heat during evaporation.
- C. Sweat turns into ice before evaporation.
- D. Sweat forms crystals that cool the skin.

Q21 General Science

Why is practicing safe sex important for reproductive health?

- A. It prevents sexually transmitted diseases like HIV-AIDS ✓
- B. It ensures hormonal balance in the body
- C. It guarantees pregnancy
- D. It increases fertility

Q22 General Science

How much current will flow through a resistor of $20\ \Omega$ when a potential difference of $40\ \text{V}$ is applied across it?

- A. $1/2\ \text{A}$
- B. $2\ \text{A}$ ✓
- C. $1/5\ \text{A}$
- D. $5\ \text{A}$

Q23 General Science

What is the main structural component of the plant cell wall?

- A. Cellulose ✓
- B. Collagen
- C. Peptidoglycan
- D. Chitin

Q24 General Science

Due to the continuous random movement of the gas particles, the particles collide with the walls of the container. The pressure exerted by the gas is equal to the:

- A. force exerted by the gas particles per unit volume of the container
- B. force exerted by the gas particles per unit area of the bottom of the container
- C. force exerted by the gas particles per unit area on the walls of the container ✓
- D. force exerted by the gas particles on the walls of the container

Q25 General Science

Unsaturated carbons are _____ than the saturated carbon compounds.

- A. More saturated
- B. Equally reactive
- C. More reactive ✓
- D. Less reactive



General Science

25 Questions • Answer Key

Q1 General Science

Which category of sound frequency is used by rhinoceroses, whales, and elephants for communication?

- A. Ultrasound
- B. Audible sound
- C. Infrasound
- D. Supersonic sound



Q2 General Science

Which of the following statement(s) is /are true about the image formed by a concave mirror?

(i) A concave mirror always forms a real and inverted image whatever be the position of the object.
(ii) A concave mirror forms a real, inverted and diminished image when the object is placed between the focus and centre of curvature of the mirror.
(iii) A concave mirror forms a real, inverted and point sized image at its focus when the object is placed at infinity.

- A. Only (i)
- B. Both (ii) and (iii)
- C. Both (i) and (ii)
- D. Only (iii)



Q3 General Science

What can be said about the shape of a velocity-time graph for an object moving with non-uniform acceleration?

- A. It is always a horizontal line.
- B. It is always a straight line.
- C. It is always a downward sloping line.
- D. It is a curved line.



Q4 General Science

A male patient has low sperm motility. Which glands are most likely to be NOT functioning properly?

- A. Testis and bladder
- B. Thyroxine and Pineal Glands
- C. Pancreas and adrenal glands
- D. Prostate gland and seminal vesicles



Q5 General Science

What does the area under a velocity-time graph represent?

- A. The speed of the object
- B. The acceleration of the object
- C. The displacement of the object during that time interval
- D. The time taken by the object



Q6 General Science

What is a reduction reaction?

- A. Loss of electrons
- B. Gain of electrons
- C. Loss of neutrons
- D. Gain of protons



Q7 General Science

Metals high in the activity series may be extracted by the process of:

- A. only heating
- B. electrolytic reduction
- C. heating with carbon
- D. calcination



Q8 General Science

Which of the following determine the size of an atom?

- A. Nucleus
- B. Electron Clouds
- C. Neutrons
- D. Protons



Q9 General Science

The simple permanent tissue that provides mechanical support and flexibility to plant parts such as stems and tendrils is _____.

- A. parenchyma
- B. xylem
- C. sclerenchyma
- D. collenchyma



Q10 General Science

The epithelial tissue forming the lining of kidney tubules and salivary gland ducts is which of the following?

A. Cuboidal epithelium ✓

B. Columnar epithelium

C. Ciliated epithelium

D. Stratified epithelium

Q11 General Science

Esters are _____ substances.

A. sour-smelling

B. pungent-smelling

C. sweet-smelling ✓

D. bitter-smelling

Q12 General Science

Which property distinguishes a compound from a mixture?

A. Has fixed composition and properties ✓

B. Can exist in any state

C. Is made of more than one substance

D. Is always a solid

Q13 General Science

Why is variation important in sexually reproducing plants?

A. It decreases the genetic diversity within the population.

B. It increases the chances of survival by enabling adaptation to environmental changes. ✓

C. It ensures all offspring are identical to the parent, maintaining uniformity.

D. It limits the adaptability of the species to changing environments.

Q14 General Science

Which among the following statements represents a characteristic of asexual reproduction?

A. Involves two parents

B. Produces genetically diverse offspring

C. Involves only one parent ✓

D. Requires gametes

Q15 General Science

Match the following statements about respiration with their correct features.

a. Aerobic respiration	i. Does not require oxygen
b. Anaerobic respiration	ii. Mitochondria
c. Pyruvate breakdown in the presence of oxygen takes place in the	iii. Cytoplasm
d. Glucose breakdown in the absence of oxygen takes place in the	iv. Requires oxygen

A. a - iv, b - i, c - iii, d - ii

B. a - iv, b - i, c - ii, d - iii ✓

C. a - i, b - iii, c - ii, d - iv

D. a - i, b - iv, c - ii, d - iii

Q16 General Science

Match the following columns.

Column A (Situation)	Column B (Effect)
A. Acid rain	1. Occurs when pH < 5.5 in mouth
B. Indigestion	2. Antacids neutralise excess acid
C. Tooth decay	3. pH < 5.6 harms aquatic life
D. Bee sting	4. Neutralised by baking soda

A. A-2; B-4; C-1; D-3

B. A-1; B-2; C-3; D-4

C. A-4; B-3; C-2; D-1

D. A-3; B-2; C-1; D-4 ✓



Q17 General Science

What is the primary safety function of the green insulated earth wire in a domestic circuit, particularly for metallic appliances?

- A. To stabilise the voltage at 220 V
- B. To provide a high-resistance path to divert excess current into the ground
- C. To act as the neutral wire when the black wire fails
- D. To provide a low-resistance path to ensure leakage current keeps the appliance potential to that of the earth, preventing severe shocks

Q18 General Science

According to Bohr-Bury, what is the maximum number of electrons that the M-shell can accommodate?

- A. 8
- B. 18
- C. 2
- D. 20

Q19 General Science

A ray of light strikes a plane mirror at an angle of 30° with the normal. The angle between the incident ray and the reflected ray is:

- A. 60°
- B. 90°
- C. 30°
- D. 120°

Q20 General Science

In what way is tendril movement similar to other tropic movements in plants?

- A. It always occurs during night.
- B. It involves directional growth in response to a stimulus.
- C. It is based on internal water.
- D. It is random and sudden pressure only.

Q21 General Science

Why are autotrophs placed at the first trophic level in a food chain?

- A. Because they consume organic waste materials
- B. Because they feed on herbivores
- C. Because they manufacture food from inorganic substances
- D. Because they decompose dead organisms

Q22 General Science

Which of the following is an example of a physical change during the formation of a solution?

- A. Dissolution of salt in water
- B. Digestion of food in the stomach
- C. Curdling of milk when lemon juice is added to it
- D. Rusting of iron in salt solution

Q23 General Science

A stone is thrown vertically upward with an initial velocity of 49 m/s. Calculate the maximum height it reaches before momentarily stopping. (Take $g = 9.8 \text{ m/s}^2$).

- A. 245 m
- B. 49 m
- C. 9.8 m
- D. 122.5 m

Q24 General Science

The energy stored in an object due to its position or configuration is called:

- A. sound energy
- B. kinetic energy
- C. potential energy
- D. thermal energy

Q25 General Science

A 7 V battery is connected in series with five resistors: 0.1Ω , 0.4Ω , 0.5Ω , 0.6Ω and 12.4Ω . What is the current flowing through the 12.4Ω resistor?

- A. 1 A
- B. 2 A
- C. 0.75 A
- D. 0.5 A



General Science

25 Questions • Answer Key

Q1 General Science

What happens to a substance when it is reduced in a reaction?

- A. It gains electrons ✓
- B. It becomes more reactive
- C. It loses electrons
- D. It loses protons

Q2 General Science

The non-directional movement of plants due to stimulus of sunlight is called:

- A. photonasty ✓
- B. phototropism
- C. thigmotropism
- D. thigmonasty

Q3 General Science

Read the given statements and select the most appropriate option.

Statement 1: When a ball is thrown vertically upward, its velocity decreases at the rate of g .
Statement 2: The acceleration due to gravity acts downward even when the ball moves upward.

- A. Only Statement 1 is correct
- B. Only Statement 2 is correct
- C. Both Statements are incorrect
- D. Both Statements 1 and 2 are correct ✓

Q4 General Science

Consider the following statements and select the correct option.

Statement A: Baking soda is a mild non-corrosive basic salt.
Statement B: It can neutralise acids and relieve stomach acidity.

- A. Statement A is incorrect but B is correct.
- B. Statement A is correct but B is incorrect.
- C. Both statements A and B are correct. ✓
- D. Both statements A and B are incorrect.

Q5 General Science

Which roasting operation shown below burns out sulphur from a sulphide ore?

- A. Oxidising ✓
- B. Chloridising
- C. Smelting
- D. Volatilising

Q6 General Science

Which of the following correctly represents the total number of atoms in one molecule of ammonium sulphate $((\text{NH}_4)_2\text{SO}_4)$?

- A. 14
- B. 15 ✓
- C. 10
- D. 16

Q7 General Science

Why are megaphones, loudhailers and some musical instruments designed with a tube followed by a conical opening?

- A. To direct most of the sound waves forward toward the audience without spreading it ✓
- B. To absorb the sound waves
- C. To spread the sound in all directions
- D. To make the sound quieter

Q8 General Science

The pattern formed by iron filings around a bar magnet demonstrates _____.

- A. electrostatic force
- B. magnetic field lines ✓
- C. gravitational field lines
- D. electric field lines



Q9 General Science

A ray of light parallel to the principal axis, after reflection from a concave mirror, _____.

- A. passes through the principal focus** ✓
- B. remains parallel to the axis
- C. passes through the pole
- D. passes through the centre of curvature

Q10 General Science

What quantity is measured in cubic centimetres (cm³)?

- A. Temperature
- B. Pressure
- C. Mass
- D. Volume** ✓

Q11 General Science

The sensation of feeling full after eaten enough is perceived in which part of our body?

- A. Fore-brain** ✓
- B. Heart
- C. Mid-brain
- D. Buccal cavity

Q12 General Science

Using cracked crockery to grow small plants is an example of _____.

- A. Refuse
- B. Repurpose** ✓
- C. Recycle
- D. Reuse

Q13 General Science

Which of the following statements is correct about the direction of the magnetic field lines inside a current-carrying solenoid?

- A. The magnetic field lines are parallel and along the axis of the solenoid from its north pole to south pole.
- B. The magnetic field lines are random inside the solenoid.
- C. The magnetic field lines are circular and perpendicular to the axis of the solenoid.
- D. The magnetic field lines are parallel and along the axis of the solenoid from its south pole to north pole.** ✓

Q14 General Science

In a eukaryotic cell observed under a microscope, the three main components visible are:

- A. endoplasmic reticulum, Golgi body and nucleoid
- B. capsule, nucleoid and cytoplasm
- C. plasma membrane, nucleus and cytoplasm** ✓
- D. cell wall, ribosome and vacuole

Q15 General Science

A person is prescribed spectacles of +2 D. What type of lens is used in the spectacles?

- A. Convex lens** ✓
- B. Cylindrical lens
- C. Concave lens
- D. Prism lens

Q16 General Science

If you want to make water evaporate faster, what should you do?

- A. Cover the container.
- B. Place it in a cool, humid room.
- C. Increase the temperature and expose it to a fan.** ✓
- D. Use a narrow, deep container.

Q17 General Science

When is the work done by a constant force on an object maximum?

- A. When the force is in the same direction as the displacement** ✓
- B. When the force is opposite to the displacement
- C. When the force makes an angle of 45° with the displacement
- D. When the force is perpendicular to the displacement

Q18 General Science

What happens to the uterus lining if the egg is not fertilised?

- A. It breaks down and is discharged through the vagina.** ✓
- B. It gets absorbed by the body.
- C. It becomes thickened.
- D. It is unaffected.



Q19 General Science

Which of the following reactions is an example of a reduction reaction?

- A. $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
- B. $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
- C. $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$ ✓
- D. $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$

Q20 General Science

Which of the following best describes fragmentation as a method of asexual reproduction?

- A. The parent body breaks into pieces, and each piece grows into a new organism. ✓
- B. A single cell divides into two identical daughter cells.
- C. The parent organism divides into many cells which develop into spores.
- D. A new organism grows from a bud formed on the parent's body.

Q21 General Science

Cytoplasm is made up of an aqueous ground substance called:

- A. chromoplasm
- B. cytosol ✓
- C. lysosomal fluid
- D. nucleoplasm

Q22 General Science

In which of the following cases is pregnancy least likely to occur?

- A. Egg not released from ovary ✓
- B. Fertilisation happens in the oviduct
- C. Embryo implants in the uterus
- D. Sperm meets egg in the uterus

Q23 General Science

The Rutherford gold foil experiment established the presence of:

- A. Protons
- B. Nucleus ✓
- C. Electrons
- D. Neutrons

Q24 General Science

A car moves with uniform velocity v . Which of the following statements is true about its velocity–time graph?

- A. Slope of graph = displacement
- B. Slope of graph = velocity
- C. Slope of graph = 0 ✓
- D. Graph passes through origin only

Q25 General Science

During non-uniform motion of an object along a straight line _____.

- A. the velocity remains constant with time.
- B. the change in velocity over any time interval is zero.
- C. the change in velocity over any time interval is non zero. ✓
- D. the velocity has same values at different points of the path.



General Science

25 Questions • Answer Key

Q1 General Science

The work done by friction on a moving object is usually _____.

- A. zero
- B. negative ✓
- C. positive
- D. both positive and negative

Q2 General Science

Select the correct example of a functional group that DOES NOT represent any double bond in their structure.

- A. Propanone
- B. Propanoic acid
- C. Propanol ✓
- D. Propanal

Q3 General Science

A rainbow is formed in the sky after rain, which is due to _____.

- A. refraction and dispersion of light by raindrops ✓
- B. scattering of light by air
- C. reflection only
- D. absorption of light by water

Q4 General Science

What does a lens with a power of 1 dioptre indicate?

- A. It has a focal length of 100 m.
- B. It has a focal length of 1 metre. ✓
- C. It has a magnification of 1.
- D. It has a focal length of 1 cm.

Q5 General Science

Which phenomenon shows the role of the cell wall in osmosis?

- A. Diffusion of gases through cell membrane
- B. Plasmolysis observed when living plant cells lose water ✓
- C. Exchange of gases through stomata of leaves
- D. Absorption of light by chlorophyll during photosynthesis

Q6 General Science

When an object is placed in a fluid, it feels an upward force called buoyancy. On which factor does the magnitude of this buoyant force depend?

- A. The weight of the object only
- B. The colour of the object
- C. The density of the fluid ✓
- D. The shape of the object

Q7 General Science

The alveoli are surrounded by an extensive network of _____, where the exchange of _____ takes place.

- A. capillaries; gases ✓
- B. bronchi; air
- C. nerves; impulses
- D. muscles; pressure

Q8 General Science

The Law of Constant Proportions applies to the:

- A. Both mixtures and compounds
- B. Pure chemical compounds ✓
- C. Mixtures of substances
- D. Elements

Q9 General Science

A food chain starts from grass → grasshopper → frog → snake → hawk. How much concentration of non-biodegradable pesticides is expected in hawk?

- A. The highest concentration of pesticides ✓
- B. Equal concentration of pesticide as in the frog
- C. The lowest amount of pesticide residue
- D. No pesticide residue at all



Q10 General Science

A current I ampere flows through a metallic wire of resistance $X \Omega$ when a potential difference V volt is applied across its ends. Which of the following is the correct relation between X , I and V ?

- A. $X = I + V$
- B. $X = I - V$
- C. $X = I/V$
- D. $X = V/I$

**Q11 General Science**

Which of the following crosses will produce all heterozygous offspring in the F1 generation?

- A. $Tt \times Tt$
- B. $TT \times tt$
- C. $tt \times tt$
- D. $TT \times TT$

**Q12 General Science**

Which of the following methods is used to separate particles from a suspension?

- A. Distillation
- B. Filtration
- C. Evaporation
- D. Crystallization

**Q13 General Science**

Why do we see the flash of lightning before we hear the sound of thunder?

- A. Light and sound travel at the same speed
- B. Light is brighter than sound
- C. Light travels slower than sound
- D. Sound travels slower than light

**Q14 General Science**

Which of the following statements about average speed is INCORRECT?

- A. It is change in distance divided by change in velocity.
- B. It is measured in m/s.
- C. It is total distance divided by total time.
- D. It does not depend on the direction of motion.

**Q15 General Science**

Which of the following statements about momentum is true?

- A. The SI unit of momentum is kilogram per second.
- B. Momentum is the sum of mass and velocity.
- C. Momentum has magnitude only and no direction.
- D. Momentum has both magnitude and direction.

**Q16 General Science**

The forces of attraction between particles are _____ in solids, _____ in liquids, and _____ in gases.

- A. maximum, minimum, minimum
- B. maximum, intermediate, maximum
- C. maximum, minimum, intermediate
- D. maximum, intermediate, minimum

**Q17 General Science**

Plastids are absent in which of the following cells?

- A. Leaf cells
- B. Stem cells
- C. Root cells
- D. Muscle cells

**Q18 General Science**

Which method is used to extract metals such as sodium and aluminium, which are at the top of the reactivity series?

- A. Electrolytic reduction of their molten chlorides or oxides
- B. Calcination of their carbonate ores
- C. Roasting of their sulphide ores
- D. Reduction with carbon



Q19 General Science

Match Column A with Column B.

Column A	Column B
A. Acids	1. Produce OH^- ions in water
B. Bases	2. Produce H^+ (or H_3O^+) ions in water
C. Acid + Base	3. Form salt and water (neutralisation)
D. Both conduct electricity	4. Due to presence of ions in solution

A. A-2; B-1; C-4; D-3

B. A-3; B-4; C-1; D-2

C. A-2; B-1; C-3; D-4

D. A-4; B-3; C-2; D-1

Q20 General Science

Which of the following best explains the origin of coal and petroleum?

A. Fossilisation of plants and animals under high temperature and pressure over millions of years

B. Crystallisation of minerals under the seabed

C. Decomposition of volcanic rocks under high pressure

D. Compaction of forest wood under sunlight

Q21 General Science

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Sexual reproduction is essential in plants for maintaining the continuity of the species for many generations.

Reason (R): Sexual reproduction leads to genetic variation that enhances adaptability and evolutionary fitness.

A. Assertion (A) is true, but Reason (R) is false.

B. Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of Assertion (A).

C. Assertion (A) is false, but Reason (R) is true.

D. Both Assertion (A) and Reason (R) are true but (R) is NOT the correct explanation of Assertion (A).

Q22 General Science

Which part of a flower encloses and shields the developing bud?

A. Sepal

B. Stamen

C. Petal

D. Pistil

Q23 General Science

Which alcohol is commonly used as fuel?

A. Methanol

B. Butanol

C. Propanol

D. Ethanol

Q24 General Science

What is the gap between two neurons called?

A. Synapse

B. Stroma

C. Lumen

D. Intermembrane space

Q25 General Science

Which of the following is NOT a correct expression for electric power (P)?

A. $P = I \times R^2$

B. $P = \frac{V^2}{R}$

C. $P = V \times I$

D. $P = I^2 \times R$



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General Science

25 Questions • Answer Key

Q1 General Science

A sealed packet has a mass of 500 g and a volume of 350 cm³. Given the density of water is 1 g cm⁻³, will the packet float or sink in water, and why?

- A. Float, because its mass is low.
- B. Sink, because its density is greater than water's density. ✓
- C. Sink, because the total volume is high.
- D. Float, because its density is less than water.

Q2 General Science

In galvanisation, which metal is used to coat iron?

- A. Aluminum
- B. Lead
- C. Zinc ✓
- D. Copper

Q3 General Science

Select the correct option regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Calcium oxide reacts vigorously with water to form calcium hydroxide.

Reason (R): In a combination reaction, two or more substances combine to form one product.

- A. A is true, but R is false.
- B. Both A and R are true, and R is the correct explanation of A. ✓
- C. A is false, but R is true.
- D. Both A and R are true, and R is not the correct explanation of A.

Q4 General Science

Some organisms take in whole food material and break it down inside their bodies. This is called _____ nutrition.

- A. saprophytic
- B. holozoic ✓
- C. parasitic
- D. autotrophic

Q5 General Science

Which of the following processes is a physical change?

- A. Rusting
- B. Crystallisation ✓
- C. Fermentation
- D. Combustion

Q6 General Science

Which of the following is a non-metal?

- A. Zinc
- B. Chlorine ✓
- C. Mercury
- D. Copper

Q7 General Science

Which contraceptive method provides dual protection against pregnancy and most sexually transmitted diseases?

- A. Male condom ✓
- B. Copper -T
- C. Oral contraceptive pills
- D. Surgical methods

Q8 General Science

What does the velocity-time graph look like for an object moving with uniform velocity?

- A. A curved line rising gradually
- B. A straight line parallel to the time axis ✓
- C. A straight line sloping downwards
- D. A straight line sloping upwards

Q9 General Science

Which of the following metals does NOT react with dilute hydrochloric acid under normal conditions?

- A. Aluminium
- B. Copper ✓
- C. Zinc
- D. Iron



Q10 General Science

The number of mitochondria in a cell varies depending on which of the following?

- A. The size of the nucleus
- B. The physiological activity of the cell ✓
- C. The age of the organism
- D. The amount of DNA present in the cell

Q11 General Science

The total resistance of 5 resistors of equal resistance R arranged in a parallel arrangement is _____.

- A. R5
- B. 5/R
- C. R/5 ✓
- D. 5R

Q12 General Science

Which of the following situations demonstrates Newton's Second Law of Motion?

- A. A man standing inside a lift
- B. A book lying still on the table
- C. A satellite moving around Earth
- D. A car speeding up on the road ✓

Q13 General Science

Which of the following phenomena CANNOT be explained without dispersion of light?

- A. Advanced sunrise.
- B. Rainbow formation. ✓
- C. Mirages.
- D. Twinkling of stars.

Q14 General Science

Which of the following relations is correct for expressing power in terms of voltage and resistance?

- A. $P = R/V^2$
- B. $P = I/VR$
- C. $P = V^2/R$ ✓
- D. $P = VR/I$

Q15 General Science

Which of the following is a common category of agents that can cause diseases in poultry fowl?

- A. Sunlight exposure
- B. Vitamins and minerals only
- C. Viruses, bacteria, and fungi ✓
- D. Purely genetic factors

Q16 General Science

Which of the following statements explains why insectivorous plants evolved to trap insects?

- A. To supplement nitrogen and other nutrients ✓
- B. To compete with herbivores for space
- C. To take cellulose from plant tissues
- D. To survive in habitats with low sunlight

Q17 General Science

In the case of a convex lens, under what specific object position is the image formed at 2F (F is the focal length) and has the same size as the object?

- A. At 2F ✓
- B. Beyond 2F
- C. At focus F
- D. At infinity

Q18 General Science

Which of the following contributes directly to forest conservation?

- A. Mining
- B. Urbanization
- C. Social Forestry ✓
- D. Logging

Q19 General Science

A constant force of 'X' N acts on a body such that the body undergoes a displacement of 5 m in the same direction as the force. If the work done due to the force is 500 J, then what is the value of X?

- A. 2500 N
- B. 250 N
- C. 100 N ✓
- D. 1/100 N



Q20 General Science

What happens when a solid is heated continuously?

- A. It shrinks
- B. It evaporates directly
- C. It melts and may later evaporate ✓
- D. It expands and turns into a gas

Q21 General Science

Select the INCORRECT statement regarding variation in plants.

- A. Asexual reproduction is a regular source of variations in a population. ✓
- B. They are produced during sexual reproduction.
- C. They are produced due to inaccuracy in the copying of DNA.
- D. Individuals within a population are unique due to the variations.

Q22 General Science

What will happen to a Hydra if it is cut into multiple pieces?

- A. Each piece will regenerate to form new individuals. ✓
- B. Each piece will reproduce by budding.
- C. All pieces will die immediately.
- D. Only the head part will grow into a complete individual.

Q23 General Science

When the temperature of air increases, the speed of sound waves:

- A. increases ✓
- B. decreases
- C. remains constant
- D. becomes zero

Q24 General Science

Sodium hydroxide is formed by:

- A. Dissolving sodium in ethanol
- B. Passing chlorine through water
- C. Reacting sodium with carbon dioxide
- D. Passing electricity through brine ✓

Q25 General Science

In a neutral solution, red and blue litmus paper will:

- A. both turn green
- B. both remain unchanged ✓
- C. both turn blue
- D. both turn red



General Science

25 Questions • Answer Key

Q1 General Science

When an acid reacts with a non-carbonated base, what are the typical products formed in a neutralisation reaction?

- A. Only a salt
- B. Salt and water ✓
- C. Only water
- D. Carbon dioxide and water

Q2 General Science

Which of the following statements about neutrons is correct?

- A. They are found in the nucleus of an atom. ✓
- B. They have a positive charge.
- C. They determine the chemical properties of an atom.
- D. They revolve around the nucleus in fixed orbits.

Q3 General Science

Which of the following statements is correct?

- A. Mass and inertia are unrelated.
- B. Inertia of an object increases with its mass. ✓
- C. A lighter body resists change in motion more strongly.
- D. A body with larger mass has less inertia.

Q4 General Science

How are ionic compounds formed between metals and non-metals?

- A. By transfer of electrons from metal atoms to non-metal atoms. ✓
- B. By the formation of a sea of delocalised electrons.
- C. By sharing of electrons between atoms.
- D. By mutual attraction between positively charged nuclei

Q5 General Science

Refer to the two statements given below and choose the correct option.

Statement A: Sodium hydroxide is used in the manufacture of soaps and paper.

Statement B: It is a weak base and neutral in nature.

- A. Both statements A and B are correct.
- B. Statement A is correct but B is incorrect. ✓
- C. Both statements A and B are incorrect.
- D. Statement A is incorrect but B is correct.

Q6 General Science

An object is moving along a straight line with a velocity that is initially positive (+u) and non-zero, but the acceleration is non-uniform and negative, such that the velocity eventually becomes negative (-v). What does the negative final velocity signify?

- A. The object is moving backward relative to its initial direction. ✓
- B. The acceleration became positive at some point.
- C. The object is at rest.
- D. The object has constant but negative acceleration.

Q7 General Science

Which part of the eye is responsible for converting light into electrical signals?

- A. Retina ✓
- B. Lens
- C. Cornea
- D. Iris

Q8 General Science

If the potential difference between two points is V and charge q moves between them, the work done is _____.

- A. $W = V \times q$ ✓
- B. $W = q/V$
- C. $W = V/q$
- D. $W = V^2/q$



Q9 General Science

Which of the following is NOT true about kinetic energy?

A. It depends on motion.

B. It depends on direction of motion. ✓

C. It can never be negative.

D. It is a scalar quantity.

Q10 General Science

When onion bulbs of different sizes are viewed under a microscope, all show similar rectangular structures. This proves that _____.

A. only big onions have cells

B. cork cells are living

C. cells differ in a onion

D. all living things are made of cells ✓

Q11 General Science

In a lab, a student sees a large transparent sac filling most of a plant cell. What percentage of the cell's volume does the vacuole occupy?

A. 50–90% ✓

B. 100%

C. 20–30%

D. 5–15%

Q12 General Science

Which of the following is the phase during which reproductive tissues in humans start maturing?

A. Puberty ✓

B. Childhood

C. Fertilization

D. Menstruation

Q13 General Science

In multicellular organisms, a lot of variation in the shape and size of cells makes an organism _____.

A. more efficient with different cells performing different functions ✓

B. prone to infection and death

C. less efficient with no division of labour among the cells

D. perform poorly in adverse conditions

Q14 General Science

In a compound, the elements are combined:

A. physically

B. by filtration

C. chemically ✓

D. by evaporation

Q15 General Science

What is the primary objective of implementing nutrient management practices in agriculture?

A. Pouring polluted water on crops

B. Enhancing soil erosion

C. Mixing plastic residues into the field

D. Improving crop productivity and quality ✓

Q16 General Science

What do we call the low-pressure area created when a vibrating object moves backward?

A. Compression

B. Wavelength

C. Rarefaction ✓

D. Reflection

Q17 General Science

Which of the following is a property of liquids?

A. Fixed shape but no fixed volume

B. No fixed shape and no fixed volume

C. No fixed shape but fixed volume ✓

D. Fixed shape and fixed volume

Q18 General Science

Which of the following statements is correct about Ohm's Law?

A. It states that resistance decreases with voltage.

B. It is valid for semiconductors and electrolytes.

C. It is valid only for metallic conductors at constant temperature. ✓

D. It is valid for all conductors at all temperatures.



Q19 General Science

Non-metallic oxides are considered acidic in nature. What is the approximate pH nature of the salt formed when a non-metallic oxide reacts with a strong base?

- A. Acidic
- B. Neutral
- C. Amphoteric
- D. Basic

**Q20 General Science**

Which of the following is a non-biodegradable material?

- A. Plastic bag
- B. Cotton cloth
- C. Paper
- D. Vegetable peel

**Q21 General Science**

What is the chemical formula of aluminium oxide?

- A. AlO_3
- B. Al_2O_3
- C. AlO
- D. Al_2O

**Q22 General Science**

What is the SI unit of universal gravitational constant (G)?

- A. Nm^2/kg^2
- B. N/kg^2
- C. kg/N
- D. Nm/kg

**Q23 General Science**

Which of the following modifications of seeds help in wind dispersal?

- A. Large size
- B. Spiny or hook-like outgrowths
- C. Wing-like or hairy outgrowths
- D. Thick and fibrous coat

**Q24 General Science**

Which flower parts usually shrivel and fall off after fertilisation?

- A. Embryo and cotyledon
- B. Roots and leaves
- C. Petals, sepals, stamens, style and stigma
- D. Ovule and ovary

**Q25 General Science**

What type of image is formed by a convex mirror when the object is placed at infinity?

- A. Same size, real and inverted
- B. Enlarged, virtual and erect
- C. Enlarged, real and inverted
- D. Highly diminished, virtual, erect and point-sized



General Science

25 Questions • Answer Key

Q1 General Science

Which organism is a key indicator of a healthy aquatic ecosystem?

- A. Lichen
- B. Cockroach
- C. Fish
- D. Earthworm



Q2 General Science

Sodium hydroxide is prepared by passing electricity through an aqueous solution of sodium chloride. The process is called:

- A. Chlor-alkali
- B. Hall-Hérout
- C. Dow's
- D. Born Haber



Q3 General Science

Which of the following statements best explains why all atoms of an element are represented by the same symbol?

- A. Because they have identical physical properties
- B. Because they have the same number of neutrons in the nucleus
- C. Because they have the same number of protons in their nucleus
- D. Because their mass numbers are always the same



Q4 General Science

Estimate the concentration of the solution in terms of mass by mass percentage if 50 g of common salt is dissolved in 300 g of water.

- A. 14.28%
- B. 14%
- C. 12%
- D. 12.22%



Q5 General Science

Which process is used for the extraction of aluminium from bauxite?

- A. Roasting followed by reduction
- B. Electrolysis of molten aluminium oxide
- C. Calcination followed by carbon reduction
- D. Displacement by zinc



Q6 General Science

What is the transfer of pollen grain from one flower to another flower called?

- A. Auto pollination
- B. Cross pollination
- C. Autogamy
- D. Self pollination



Q7 General Science

Which of the following chemical equations is correctly balanced?

- A. $2\text{Fe} + 3\text{H}_2\text{O} \rightarrow 2\text{Fe}_3\text{O}_4 + 3\text{H}_2$
- B. $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 2\text{H}_2$
- C. $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$
- D. $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4\text{H}_2$



Q8 General Science

If voltage (V) is constant, the power is directly proportional to which of the following?

- A. Resistance
- B. Current
- C. Square of Resistance
- D. Energy



Q9 General Science

Which of the following is a compound that forms a solution when dissolved in water?

- A. Sand
- B. Sodium Chloride
- C. Oil
- D. Iron filings



Q10 General Science

The distance between the optical centre of a lens and its principal focus is called _____.

- ☒ A. focal length
- ☐ B. radius of curvature
- ☐ C. aperture
- ☐ D. magnification

Q11 General Science

Which of the following statements is/are NOT true according to the sign convention for spherical lenses?

- (i) All distances parallel to the principal axis are measured from the focus of the lens.
- (ii) All the distances measured to the right of the origin are taken as positive.
- (iii) Distances measured perpendicular to and above the principal axis are taken as negative.
- (iv) The object is always placed to the left of the lens.

- ☐ A. Both (ii) and (iii)
- ☐ B. Both (i) and (iv)
- ☒ C. Both (i) and (iii)
- ☐ D. Both (ii) and (iv)

Q12 General Science

Select the correct function of the smooth endoplasmic reticulum.

- ☐ A. Carbohydrate synthesis
- ☒ B. Lipid synthesis
- ☐ C. Nucleic acid synthesis
- ☐ D. Protein synthesis

Q13 General Science

Which of the following correctly describes the direction of the magnetic field outside a solenoid?

- ☐ A. South pole to North pole
- ☐ B. From the ends to the centre
- ☒ C. North pole to South pole
- ☐ D. From the centre to the ends

Q14 General Science

Meristematic tissues are found only in a specific region. On the basis of position, which is NOT a meristematic tissue type?

- ☐ A. Apical
- ☐ B. Intercalary
- ☒ C. Basal
- ☐ D. Lateral

Q15 General Science

Which of the following statements is/are correct regarding the female reproductive system?

Statement A: The egg is carried from the ovary to the womb through a thin oviduct or fallopian tube.
Statement B: The uterus opens into the vagina through the cervix.

- ☐ A. Only statement A
- ☐ B. Neither statement A nor B
- ☐ C. Only statement B
- ☒ D. Both statement A and B

Q16 General Science

What advantage does asexual reproduction provide in a stable environment?

- ☐ A. Genetic variation
- ☐ B. Adaptation to new environment
- ☐ C. Sexual diversity
- ☒ D. Rapid and identical reproduction

Q17 General Science

Truck and motorbus tyres are designed to be much wider than car tyres, while cutting tools and nails are designed with sharp, small tips. This contrast in design illustrates the principle that _____.

- ☐ A. thrust is directly proportional to the area of contact
- ☐ B. pressure is inversely proportional to the mass of the object
- ☒ C. the same thrust acting on a smaller area exerts a larger pressure
- ☐ D. larger thrust always results in lower pressure



Q18 General Science

From the given alternatives, select the correct statement related to garbage from a general household.

- A. Safe disposal of garbage is not mandatory.
- B. Entire garbage is biodegradable.
- C. Garbage contains both biodegradable and non-biodegradable components. ✓
- D. Entire garbage is non-biodegradable.

Q19 General Science

Which of the following best illustrates Newton's Third Law of Motion?

- A. A rocket propelling upward by expelling gases downward. ✓
- B. A car accelerating on a road due to engine power.
- C. A pendulum oscillating back and forth.
- D. A ball falling under gravity.

Q20 General Science

Which of the following devices work on the principle of multiple reflections of sound waves?

- A. Microscope
- B. Stethoscope ✓
- C. Megaphone
- D. Thermometer

Q21 General Science

Can the displacement of an object be greater than the distance travelled?

- A. No, displacement can never be greater than distance ✓
- B. Only when the object moves in a straight line
- C. Yes, sometimes
- D. Yes, always

Q22 General Science

The SI unit of Power is watt (W). As per the relation of work-power, one watt is equivalent to _____.

- A. 1 Joule-second (1 J.s)
- B. A kilowatt-hour (1 kWh)
- C. 1 Joule per second (1 J/s) ✓
- D. 1 Newton per meter (1 N/m)

Q23 General Science

Which of the following hydrocarbons are organic compounds with elements _____?

- A. Carbon
- B. both hydrogen and carbon ✓
- C. Hydrogen
- D. Oxygen

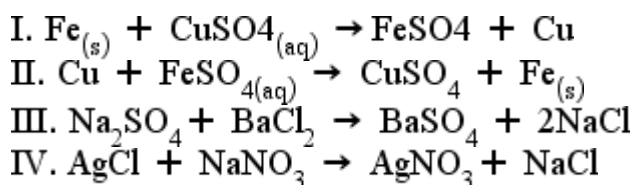
Q24 General Science

Which of the following processes results in the formation of two identical daughter cells?

- A. Cytokinesis without karyokinesis
- B. Meiosis
- C. Mitosis ✓
- D. Fertilisation

Q25 General Science

Which of the following displacement reactions are possible?



- A. I, II, and III only
- B. I and III only ✓
- C. I, III and IV only
- D. II and IV only



General Science

25 Questions • Answer Key

Q1 General Science

The unit of formula unit mass is:

- A. kg
- B. u
- C. mole
- D. g



Q2 General Science

What helps flowering plants to grow new plants in the next generation?

- A. Growth of petals
- B. Seed formation and germination
- C. Formation of stigma
- D. Formation of roots



Q3 General Science

The making of new cells in organisms is called _____.

- A. Cell division
- B. Cell fusion
- C. Cell secretion
- D. Cell respiration



Q4 General Science

A force of 10 N acts on a body of mass 2 kg. The acceleration produced is:

- A. 10 m/s²
- B. 20 m/s²
- C. 5 m/s²
- D. 2 m/s²



Q5 General Science

Which of the following most precisely defines the 'concentration of a solution'?

- A. The quantity of dissolved substance relative to the solvent
- B. The proportional relationship between mass and velocity
- C. The total count of gaseous particles dispersed in air
- D. The sensory characteristics such as hue and flavor



Q6 General Science

What is the main function of muscular tissue in the human body?

- A. It provides protection and structural support to organs.
- B. It transmits impulses between different body organs.
- C. It produces movement by contracting and relaxing.
- D. It stores energy and maintains body temperature.



Q7 General Science

Bleaching powder is chemically formed by:

- A. NaOH reacting with HCl acid
- B. CaCl₂ reacting with O₂ gas
- C. Ca(OH)₂ reacting with Cl₂ gas
- D. CaCO₃ reacting with CO₂ gas



Q8 General Science

When an object is placed beyond the centre of curvature (C) in front of a concave mirror, what kind of image is formed?

- A. Same size, real, and upright
- B. Highly enlarged and virtual
- C. Enlarged, virtual, and upright
- D. Diminished, real, and inverted



Q9 General Science

What type of reproduction is involved when buds from the leaf margins of Bryophyllum develop into new plants?

- A. Asexual reproduction by vegetative propagation
- B. Asexual reproduction by spores
- C. Sexual reproduction
- D. Budding through stem nodes



Q10 General Science

The reaction of an alcohol with ethanoic acid in the presence of a catalyst forms water and:

- A. An aldehyde
- B. An ester
- C. A hydrocarbon
- D. A salt



Q11 General Science

Which of the following is NOT a method of introducing desirable character in crop varieties?

- A. Intergenic hybridisation
- B. Intragenic hybridisation ✓
- C. Interspecific hybridisation
- D. Intervarietal hybridisation

Q12 General Science

Which of the following is not an abiotic component of an ecosystem?

- A. Temperature
- B. Wind
- C. Rainfall
- D. Microbes ✓

Q13 General Science

During uniform motion of an object along a straight line _____.

- A. The change in velocity over any time interval is non zero.
- B. The change in velocity over any time interval is zero. ✓
- C. The velocity changes continuously with time.
- D. The velocity has different values at different instants and at different points of the path.

Q14 General Science

What is rancidity?

- A. The process of food becoming stale due to drying
- B. The process where fats and oils in food are oxidised, leading to changes in smell and taste ✓
- C. The process of preserving food by adding salt or sugar
- D. The process of food decaying due to bacterial growth

Q15 General Science

How are the magnetic field lines arranged inside a current-carrying solenoid?

- A. Curved and non-uniform
- B. Random
- C. Parallel and uniformly spaced ✓
- D. Radial from the centre

Q16 General Science

The Law of Gravitation helped in establishing that:

- A. the Earth is flat
- B. the Sun revolves around the Earth
- C. the same force governs both falling bodies on Earth and motion of planets ✓
- D. gravitation acts only on terrestrial objects

Q17 General Science

Which process is used for heating metal oxides to extract metals like copper and silver?

- A. Roasting
- B. Smelting ✓
- C. Electrolysis
- D. Thermal Decomposition

Q18 General Science

In which of the following organisms do both fragmentation and spore formation occur?

- A. Planaria
- B. Yeast
- C. Fungi ✓
- D. Amoeba

Q19 General Science

Consider the following statements and select the correct option.

Statement A: Alcohols react with sodium to evolve hydrogen.
Statement B: No gas is evolved when sodium reacts with ethanol.

- A. Statement A is incorrect but B is correct.
- B. Statement A is correct but B is incorrect. ✓
- C. Both statements A and B are incorrect.
- D. Both statements A and B are correct.

Q20 General Science

How much work is required to move a box through a distance of 3 m in the direction of a force of 25 N?

- A. 750.0 J
- B. 0 J
- C. 25.0 J
- D. 75.0 J ✓



Q21 General Science

If a wire has a resistance R and a current I passes through it, the power dissipated in the wire is given by:

A. $P = I^2/R$

B. $P = I^2R$ ✓

C. $P = V^2R$

D. $P = V/I$

Q22 General Science

If the height of an image (h') is measured perpendicular to and below the principal axis (along the $-y$ -axis), then what sign is assigned to its value according to the convention?

A. Negative ✓

B. Neutral

C. Positive

D. Dependent on the magnification

Q23 General Science

When does rust form on iron?

A. When it is exposed to only heat

B. When it comes in contact with dry air

C. When it comes in contact with water and oxygen ✓

D. When it reacts with carbon dioxide

Q24 General Science

Which of the following is NOT true regarding the speed of sound?

(i) Speed of sound increases with the increase in the temperature of the medium.

(ii) Speed of sound in solid state is greater than the speed of sound in gaseous state.

(iii) Speed of sound decreases with the increase in the temperature of the medium.

(iv) Speed of sound is independent of the properties of the medium through which it travels.

A. Both (i) and (ii)

B. Both (i) and (iv)

C. Both (ii) and (iii)

D. Both (iii) and (iv) ✓

Q25 General Science

Which tissue or tissues can help animals respond quickly to changes in their surroundings?

A. Digestive and excretory systems working together

B. Bone and cartilage working together

C. Nerve impulses and muscle tissue working together ✓

D. Muscle tissue alone



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is a result of the genetic variation introduced by sexual reproduction?

- A. Decreased chances of survival
- B. Evolution ✓
- C. Production of genetically identical offspring
- D. Formation of identical twins

Q2 General Science

Which of the following statements suits best for the role of chemical methods of birth control in family planning?

- A. They alter the hormone levels to inhibit ovulation and uterus preparation. ✓
- B. They increase estrogen levels to promote ovulation and make fertilisation less likely.
- C. They prevent sperm from entering the uterus by thickening the vaginal wall.
- D. They mechanically block the fallopian tubes and suppress menstruation entirely.

Q3 General Science

Which reaction best supports the Law of Conservation of Mass?

- A. Burning of paper in open air
- B. Heating iron in open air
- C. Evaporation of alcohol in open air
- D. Mixing of vinegar and baking soda in a sealed container ✓

Q4 General Science

The resistance of a wire is $1\ \Omega$. If it is cut into two equal parts, the resistance of each part will be:

- A. $0.5\ \Omega$ ✓
- B. $4\ \Omega$
- C. $1\ \Omega$
- D. $2\ \Omega$

Q5 General Science

Food web consists of different types of _____.

- A. trophic levels
- B. food chains ✓
- C. foods
- D. ecosystems

Q6 General Science

According to Ohm's law, the potential difference across a conductor is:

- A. equal to the resistance
- B. inversely proportional to the current
- C. directly proportional to the current ✓
- D. independent of the current

Q7 General Science

When CO_2 reacts with calcium hydroxide, it gives calcium carbonate and water. Which property of CO_2 is seen in this reaction?

- A. Basic property
- B. Acidic property ✓
- C. Oxidising property
- D. Neutral property

Q8 General Science

Water harvesting is important because it:

- A. Recharges groundwater ✓
- B. Decreases the water supply to downstream areas
- C. Purifies the water bodies
- D. Reduces the mineral density in water bodies

Q9 General Science

The amount of solute dissolved in a particular solvent is defined in terms of:

- A. fluidity
- B. concentration ✓
- C. surface tension
- D. viscosity



Q10 General Science

Which of the following situations clearly illustrates Newton's third law, where action and reaction forces act on two different objects and are equal and opposite?

- A. A stone resting on the ground.
- B. A sailor pushes the boat backward while jumping forward, and the boat pushes him forward. ✓
- C. A car accelerating due to engine power.
- D. A book kept on a table remains at rest.

Q11 General Science

Plastids have their own _____ and _____, similar to mitochondria.

- A. DNA; ribosomes ✓
- B. nucleus; chromosomes
- C. vesicles; proteins
- D. enzymes; vacuoles

Q12 General Science

Prokaryotic cells differ from eukaryotic cells in having which of the following?

- A. Membrane-bound organelles
- B. A true nucleus
- C. Ribosomes
- D. No membrane-bound nucleus ✓

Q13 General Science

What is the correct formula for calculating pressure, where thrust is the force applied and area is the surface it acts on?

- A. Pressure = Thrust ÷ Area ✓
- B. Pressure = Thrust + Area
- C. Pressure = Area ÷ Thrust
- D. Pressure = Thrust × Area

Q14 General Science

A convex mirror always forms an image that is _____.

- A. virtual, erect, and larger than the object
- B. real, erect, and same size as the object
- C. virtual, erect, and diminished ✓
- D. real, inverted, and smaller than the object

Q15 General Science

What happens to the sound when the source vibrates faster?

- A. The frequency and pitch become lower.
- B. The sound stops producing compressions and rarefactions.
- C. The frequency and pitch become higher. ✓
- D. The pitch stays the same, but frequency decreases.

Q16 General Science

Which of the following properties of 'suspension' is INCORRECT?

- A. Suspension is a heterogeneous mixture.
- B. Particles of suspension are visible to the naked eye.
- C. Particles of suspension can be separated from the mixtures by the process of filtration.
- D. Particles of suspension do not scatter a beam of light. ✓

Q17 General Science

A particle accelerates uniformly at 2 m/s^2 . Its velocity changes from 5 m/s to 15 m/s. How long does this take?

- A. 10 s
- B. 7s
- C. 5 s ✓
- D. 2 s

Q18 General Science

Which enzyme present in saliva helps break down starch?

- A. Amylase ✓
- B. Lipase
- C. Trypsin
- D. Pepsin

Q19 General Science

The absolute refractive index of a material is $4/3$. If the speed of light in air is $3 \times 10^8 \text{ m/s}$, then what will be the speed of light in this medium?

- A. $3 \times 10^8 \text{ m/s}$
- B. $4 \times 10^8 \text{ m/s}$
- C. $2.25 \times 10^8 \text{ m/s}$ ✓
- D. $1.33 \times 10^8 \text{ m/s}$



Q20 General Science

Why does a galvanised iron article remain protected from rusting even if the zinc coating is scratched?

- A. Zinc reacts with iron to form a protective layer of iron oxide.
- B. Scratches allow oil to seep in and prevent rusting.
- C. Zinc is more reactive than iron and undergoes preferential oxidation, protecting the iron. ✓
- D. Iron forms a thin layer of rust that prevents further corrosion.

Q21 General Science

An object has a mass of 11 kg and is placed at a height above the ground. If its potential energy is 440 J and $g = 10 \text{ m/s}^2$, what is the height?

- A. 2 m
- B. 4 m ✓
- C. 8 m
- D. 48,400 m

Q22 General Science

Which of the following is NOT a property of ionic compounds?

- A. They are soluble in solvents such as kerosene and petrol. ✓
- B. They can conduct electricity in an aqueous/molten state.
- C. They generally have high melting and boiling points.
- D. They are generally solid at room temperature.

Q25 General Science

Which of the following combination reactions is an example of exothermic reaction?

- A. $\text{CaCO}_{3(s)} \xrightarrow{\text{Heat}} \text{CaO}_{(s)} + \text{CO}_{2(g)}$
- B. $\text{CH}_{4(g)} + 2\text{O}_2 \rightarrow \text{CO}_{2(g)} + 2\text{H}_2\text{O}$ ✓
- C. $2\text{AgCl}_{(s)} \xrightarrow{\text{sunlight}} 2\text{Ag}_{(s)} + \text{Cl}_{2(g)}$
- D. $\text{Pb}_{(s)} + \text{CuCl}_{2(aq)} \rightarrow \text{PbCl}_{2(aq)} + \text{Cu}_{(s)}$

Q23 General Science

At what pH does tooth decay begin to occur in the human mouth?

- A. Between 7 and 8
- B. Exactly 6.5
- C. Above 8
- D. Below 5.5 ✓

Q24 General Science

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Vegetative propagation helps grow plants that do not produce seeds.

Reason (R): It uses flowers to grow new plants.

- A. Both A and R are true, but R is not the correct explanation of A
- B. Both A and R are true, and R is the correct explanation of A
- C. A is true, but R is false ✓
- D. A is false, but R is true



General Science

25 Questions • Answer Key

Q1 General Science

What happens after fertilisation in a flowering plant?

- A. The petals and stamens become the seed, and the ovary forms the embryo.
- B. The entire flower dries up and falls off without forming any new structures.
- C. The ovule becomes the seed, and the ovary becomes the fruit. ✓
- D. The ovule becomes a fruit, and the ovary forms the seed.

Q2 General Science

When OH^- ions are added to an acidic solution, the pH:

- A. stays the same
- B. increases ✓
- C. becomes zero
- D. decreases

Q3 General Science

Which of the following is a molecule of a compound?

- A. N_2
- B. O_2
- C. He
- D. H_2O ✓

Q4 General Science

A constant force acts on an object of mass 4 kg for a duration of 2 s. It increases the object's velocity from 2 m/s to 8 m/s. What is the magnitude of the applied force?

- A. 12 N ✓
- B. 10 N
- C. 24 N
- D. 8 N

Q5 General Science

Isobars are the atoms with:

- A. same melting point but different refractive index
- B. same refractive index but different melting point
- C. same atomic number but different mass number
- D. same mass number but different atomic number ✓

Q6 General Science

An object is placed at infinity in front of a convex lens. The image formed is:

- A. at infinity, highly magnified
- B. at $2F$, same size
- C. at the focal point, highly diminished (point-sized) ✓
- D. between F and $2F$, inverted

Q7 General Science

Which of the following statements is NOT correct?

- A. Sound can be produced by non-vibrating bodies ✓
- B. Frequency of vibration determines the pitch of sound
- C. Vibrations create compressions and rarefactions in air
- D. Amplitude of vibration affects loudness

Q8 General Science

Why do fodder crops require tall plants with profuse branching?

- A. To improve soil fertility
- B. To reduce harvesting time
- C. To provide maximum green matter for fodder ✓
- D. To increase grain yield

Q9 General Science

What is a major disadvantage of connecting an electric bulb and an electric heater in series, based on their required operating current?

- A. The total equivalent resistance would be zero
- B. They need currents of widely different values to operate properly ✓
- C. The current through the heater would stop immediately
- D. The total voltage would decrease to zero

Q10 General Science

Which of the following activities CANNOT be taken as a defining characteristic of life?

- A. Visible movement like walking or running ✓
- B. Molecular movement within the cells
- C. Breathing and internal maintenance of cells
- D. Growth-related movement of plants



Q11 General Science

Which of the following reacts with bases to form salt and water?

- A. Carbon dioxide ✓
- B. Sodium oxide
- C. Hydrogen gas
- D. Calcium hydroxide

Q12 General Science

In blood, oxygen is transported by _____.

- A. Lymph
- B. Red blood corpuscles ✓
- C. Blood platelets
- D. White blood corpuscles

Q13 General Science

Molecules of compounds are formed by:

- A. Different elements chemically bonded together ✓
- B. Mixing ions without forming any chemical bonds
- C. One type of atom only with identical properties
- D. Metals joined with metals through metallic bonds

Q14 General Science

Which of the following statements describes biological magnification?

- A. Energy increases as it flows from producers to consumers.
- B. Progressive increase in biological activities.
- C. Increase in concentration of harmful substances at higher trophic levels. ✓
- D. Pollutants are completely broken down by decomposers in the ecosystem.

Q15 General Science

If the power of an engine is doubled while the time remains constant, the work done will _____.

- A. Remain the same
- B. Be quadrupled
- C. Be halved
- D. Be doubled ✓

Q16 General Science

Match the following.

Column A	Column B
1. Calyx	a. Carpels
2. Corolla	b. Stamens
3. Androecium	c. Petals
4. Gynoecium	d. Sepals

- A. 1 - c, 2 - d, 3 - b, 4 - a
- B. 1 - d, 2 - b, 3 - c, 4 - a
- C. 1 - a, 2 - c, 3 - b, 4 - d
- D. 1 - d, 2 - c, 3 - b, 4 - a ✓

Q17 General Science

Which of the following devices works on the principle of force on a current-carrying conductor in a magnetic field?

- A. Electric generator
- B. Electric motor ✓
- C. Resistor
- D. Transformer

Q18 General Science

Which of the following structures acts as the basic filtration unit in the kidney?

- A. Alveolus
- B. Tracheid
- C. Villus
- D. Nephron ✓

Q19 General Science

What is the primary characteristic that defines organic compounds?

- A. They primarily consist of carbon and hydrogen atoms, forming covalent bonds. ✓
- B. They are formed only by living organisms.
- C. They are compounds that conduct electricity in their molten state.
- D. They always contain oxygen atoms.



Q20 General Science

Which of the following is NOT an isotope of hydrogen atom?

- A. Protium
- B. Deuterium
- C. Helium
- D. Tritium

**Q21 General Science**

The law of refraction is valid for which range of the angle of incidence?

- A. $i > 90^\circ$
- B. $0^\circ < i < 90^\circ$
- C. $0^\circ < i < 45^\circ$
- D. $0^\circ < i < 60^\circ$

**Q22 General Science**

In which part of the female reproductive system does fertilisation take place?

- A. Oviduct (fallopian tube)
- B. Ovary
- C. Cervix
- D. Uterus

**Q23 General Science**

Which of the following is a double displacement reaction?

- A. $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
- B. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- C. $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
- D. $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$

**Q24 General Science**

An object is dropped from a height. What is its initial velocity?

- A. 0 m/s
- B. Can't be determined
- C. 9.8 m/s
- D. 10 m/s

**Q25 General Science**

Which of the following is an example of uniform circular motion in daily life?

- A. A ceiling fan rotating at constant speed
- B. A bus accelerating on a straight road
- C. A ball rolling down an inclined plane
- D. A person walking in a straight line



General Science

25 Questions • Answer Key

Q1 General Science

For a convex mirror, where is the centre of curvature located?

- A. At the focus
- B. At the mirror's surface
- C. Behind the mirror
- D. In front of the mirror



Q2 General Science

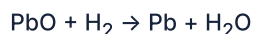
Which of the following is an example of negative work?

- A. Friction acting on a moving object
- B. Lifting a bag upwards
- C. Pushing a moving car forward.
- D. Gravity acting on a falling ball



Q3 General Science

In the given reaction, which of the following reactants has undergone oxidation?



- A. H₂O
- B. PbO
- C. Pb
- D. H₂



Q4 General Science

Match the following pH change and its effect.

Column A (Change)	Column B (Effect)
A. pH ↓ from 7 to 4	1. Increase in acidity
B. pH ↑ from 7 to 10	2. Acid rain forms
C. pH = 7	3. Neutral solution
D. pH < 5.6 in rain	4. Increase in basicity

- A. A-3; B-4; C-2; D-1
- B. A-4; B-3; C-1; D-2
- C. A-2; B-1; C-4; D-3
- D. A-1; B-4; C-3; D-2



Q5 General Science

Read the given statements carefully and select the correct option.

Statement 1: Fleming's left-hand rule is used to find the direction of force (motion) on a current-carrying conductor placed in a magnetic field.

Statement 2: The force on the conductor acts perpendicular to both the current and the magnetic field.

- A. Statement 1 is correct, but 2 is incorrect.
- B. Both statements 1 and 2 are correct.
- C. Statement 1 is incorrect, but 2 is correct.
- D. Both statements 1 and 2 are incorrect.



Q6 General Science

What will be the acceleration due to gravity on a planet whose mass and radius are double that of the Earth? (Take the acceleration due to gravity on Earth as g.)

- A. g/4
- B. g
- C. g/2
- D. 2g



Q7 General Science

Which of the following compounds would have the highest pH when dissolved in water?

- A. Lemon juice
- B. Vinegar solution
- C. Sodium hydroxide
- D. Hydrogen chloride gas



Q8 General Science

Which characteristic of parallel circuits makes them advantageous over series circuits for connecting multiple electrical gadgets in a house?

- A. The current is divided among the electrical gadgets, allowing them to operate independently.
- B. The potential difference across each gadget is unique.
- C. The total resistance is increased, protecting appliances.
- D. If one component fails, the entire circuit is broken.



Q9 General Science

Which element is necessary for the thyroid gland to secrete the thyroxine hormone?

- A. Bromine
- B. Fluorine
- C. Iodine
- D. Chlorine

Q10 General Science

Read the given Assertion (A) and Reason (R) carefully and select the correct option.

(A): Sound waves are transverse waves.

(R): Sound waves require a material medium for their propagation.

- A. Both assertion and reason are false.
- B. Assertion is false and reason is true.
- C. Assertion is true but reason is false.
- D. Both assertion and reason are true and reason is the correct explanation of assertion.

Q11 General Science

Why is variation important in a population of organisms?

- A. It causes extinction of all organisms.
- B. It helps some individuals survive if environmental conditions change.
- C. It prevents reproduction.
- D. It makes organisms identical.

Q12 General Science

The atomic number of an element is equal to which of the following?

- A. Number of protons
- B. Number of electrons
- C. Number of neutrons + number of protons
- D. Number of neutrons

Q13 General Science

Which of the following increases the rate of evaporation?

- A. High humidity and absence of wind movement
- B. Dense atmosphere and generally cool weather
- C. Low surface area and cold air temperature
- D. High temperature and increased wind speed

Q14 General Science

Which of the following factors increases the rate of evaporation?

- A. Increase in surface area
- B. Increase in humidity
- C. Decrease in wind speed
- D. Decrease in temperature

Q15 General Science

Which of the following is NOT the characteristic of epithelial tissue?

- A. Cells have no intercellular spaces.
- B. Skin, kidney tubules are made up of epithelial tissue.
- C. Cells form a continuous sheet.
- D. Cells are loosely arranged.

Q16 General Science

Which part of the flower protects the ovule and later transforms into the fruit?

- A. Stigma
- B. Petal
- C. Sepal
- D. Ovary

Q17 General Science

Which of the following mixtures is a suspension?

- A. Salt water
- B. Milk
- C. Vinegar
- D. Muddy water

Q18 General Science

In the absence of any external force, a moving body will _____.

- A. Stop due to its inertia
- B. Maintain a constant velocity in straight line
- C. Slow down and change its path
- D. Continue to move with constant acceleration



Q19 General Science

A person shows high blood sugar levels even after eating small amounts of food. What may be the cause?

- A. Low thyroxine
- B. Excess growth hormone
- C. Lack of insulin ✓
- D. Excess estrogen

Q20 General Science

If the velocity–time graph of an object is curved, it indicates _____.

- A. Constant speed
- B. Uniform motion
- C. Zero velocity
- D. Non-uniform acceleration ✓

Q21 General Science

In multicellular organisms, why can't simple diffusion alone meet the requirements of all cells?

- A. Because diffusion only transports oxygen
- B. Because all cells are directly exposed to air
- C. Because body size and complexity increase ✓
- D. Because diffusion requires light

Q22 General Science

To accurately locate the image of an extended object formed by a spherical mirror using a ray diagram, what is the minimum number of reflected rays that must intersect (or appear to intersect)?

- A. Three rays
- B. Four rays
- C. Two rays ✓
- D. One ray

Q23 General Science

Which of the following is NOT a function of the cell wall?

- A. Synthesising proteins for the cell ✓
- B. Protecting the cell from mechanical damage
- C. Providing shape to the cell
- D. Helping in cell-to-cell interaction

Q24 General Science

What do members of a homologous series differ from each other by?

- A. Two hydrogen atoms
- B. One carbon atom
- C. One oxygen atom
- D. One carbon atom and two hydrogen atoms ✓

Q25 General Science

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Vasectomy leads to loss of sexual drive in males.

Reason (R): It involves removal of the testes.

- A. Both A and R are true, but R is not the correct explanation of A
- B. A is false, but R is true
- C. Both A and R are false ✓
- D. Both A and R are true, and R is the correct explanation of A



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is a homologous series?

A. Methane, Ethane, Propane



B. Methane, Methanol, Methanoic acid

C. Methane, Ethane, Ethene

D. Ethene, Ethyne, Ethane

Q2 General Science

An object is placed beyond the centre of curvature (C) of a concave mirror. The image formed will be now:

A. Virtual, erect, and magnified

B. Real, inverted, and diminished



C. Real, inverted, and same size

D. Real, inverted, and magnified

Q3 General Science

Carbon has the unique ability to form bonds with other atoms of carbon, giving rise to large molecules. This property is called:

A. addition

B. catenation



C. conjugation

D. unification

Q4 General Science

Which of the following is a major environmental disadvantage of big dams?

A. Submergence of forests



B. Creation of recreational spaces

C. Water conservation

D. Increased biodiversity

Q5 General Science

Ethanoic acid is commonly known as acetic acid and has:

A. A basic pH and slippery feel

B. A strong fruity smell in water

C. No effect on litmus or metals

D. A sharp, sour smell and taste



Q6 General Science

If a body of mass m is raised to a height h in a gravitational field of acceleration g , its potential energy depends on:

A. m , g and h



B. h only

C. g only

D. m only

Q7 General Science

Which of the statement(s) is/are NOT true about the phenomenon of scattering of light:

(i) The amount of scattering light undergoes is independent of the size of particles of the medium through which light is passing.

(ii) The amount of scattering is directly proportional to the wavelength of light.

(iii) The colour of the sky appears blue as blue light undergoes more scattering as compared to red light.

(iv) The colour of danger signal is red as red colour undergoes least amount of scattering when passing through fog.

A. Both (ii) and (iii)

B. Both (i) and (ii)



C. Both (i) and (iii)

D. Both (iii) and (iv)

Q8 General Science

Which of the following best explains why combination reactions are often exothermic?

A. They involve formation of bonds, which absorb energy.

B. They involve the breaking of bonds only.

C. They require light to proceed.

D. They release energy due to stable product formation.



Q9 General Science

Select the correct option regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Monoculture plantations often fail to meet the diverse needs of forest-dependent villagers.

Reason (R): These plantations provide medicinal herbs, food and fuel for villagers.

- A. Both A and R are true, but R is not the correct explanation of A.
- B. A is true, but R is false.**
- C. Both A and R are true, and R is the correct explanation of A.
- D. A is false, but R is true.

Q10 General Science

The main purpose of designing a hall with curved walls and ceilings is _____.

- A. to make the sound louder only near the stage
- B. to reduce the speed of sound
- C. to make the hall look beautiful
- D. to ensure uniform sound distribution**

Q11 General Science

Which of the following statements about ions is correct?

- A. A cation is a negatively charged species.
- B. Sodium chloride consists of neutral sodium and chloride atoms.
- C. Ions are formed only from non-metal atoms.
- D. A group of atoms carrying a net charge is called a polyatomic ion.**

Q12 General Science

_____ is/are NOT selectively re-absorbed from the filtrate in the nephron.

- A. Urea**
- B. Amino acids
- C. Glucose
- D. Salts

Q13 General Science

Which of the following methods of reproduction simply involves the splitting of the parent cell into two daughter cells in the bacteria?

- A. Binary fission**
- B. Fragmentation
- C. Spore formation
- D. Budding

Q14 General Science

Which of the following statements best differentiates a mixture from a compound?

- A. A mixture always contains elements in a fixed ratio.
- B. A compound can be separated into its constituents by physical methods.
- C. A mixture retains the individual properties of its constituents.**
- D. A compound shows the properties of its constituent elements.

Q15 General Science

Which colour do silver articles attain when they get corroded and form a coating of silver sulphide?

- A. Black**
- B. Remains silver
- C. White
- D. Reddish brown

Q16 General Science

Which of the following organelles is the first to divide during binary fission in Amoeba?

- A. Vacuole
- B. Nucleus**
- C. Cell wall
- D. Cytoplasm

Q17 General Science

Through which of the following structures does urine go into the urinary bladder from kidneys?

- A. Vena cava
- B. Artery
- C. Ureters**
- D. Vein



Q18 General Science

What effect does an unbalanced force have on a moving object?

- A. It increases the weight of the object.
- B. It causes a change in speed or direction of motion. ✓
- C. It keeps the object at rest.
- D. It stops the object immediately.

Q19 General Science

What is the main purpose of cell division in multicellular organisms?

- A. Transport of substances through the cell membrane
- B. Absorption of nutrients and release of wastes
- C. Formation of vacuoles and maintenance of turgidity
- D. Growth, repair, and replacement of damaged or old cells ✓

Q20 General Science

If the length of a conductor and area is halved, keeping material same, then its resistance will _____.

- A. Be halved
- B. Become four times
- C. Remain same ✓
- D. Be doubled

Q21 General Science

What is the equivalent of 1 kilowatt-hour (kWh) in joules?

- A. $1 \text{ kWh} = 3.6 \times 10^6 \text{ joules}$ ✓
- B. $1 \text{ kWh} = 36 \times 10^{-6} \text{ joules}$
- C. $1 \text{ kWh} = 3.6 \times 10^3 \text{ joules}$
- D. $1 \text{ kWh} = 360 \text{ joules}$

Q25 General Science

According to Rutherford's model of an atom, the radius of an atom in metre is about:

- A. 10^{15}
- B. 10^{10}
- C. 10^{-10} ✓
- D. 10^{-5}

Q22 General Science

If the stigma of a flower is damaged, which process would most likely be affected?

- A. Formation of petals and sepals
- B. Fruit ripening
- C. Seed dispersal
- D. Pollination and fertilisation ✓

Q23 General Science

A car slows down uniformly when brakes are applied, producing an acceleration of 8 m/s^2 opposite to its motion. If the car comes to rest in 2s, what distance does it cover before stopping?

- A. 12 m
- B. 16 m ✓
- C. 20 m
- D. 8 m

Q24 General Science

A body weighs 60 kg wt on the surface of the moon. What will be the mass and the weight, respectively, of the body on the surface of the Earth?

(Take the value of g on Earth as 10 m/s^2)

- A. 600 kg and 360 kg wt
- B. 360 kg and 360 kg wt ✓
- C. 36 kg and 360 kg wt
- D. 60 kg and 36 kg wt



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following are generally sensitive to touch and help plants in climbing?

- A. Flowers
- B. Thorns
- C. Seeds
- D. Tendrils



Q2 General Science

Complex tissues are made up of:

- A. one type of cells
- B. only one cell
- C. more than one type of cells
- D. no cells



Q3 General Science

In plants, how does sexual reproduction leads to better survival in offspring?

- A. Offspring show new genetic recombination
- B. Offspring are born faster
- C. Offspring are exact clones
- D. Offspring do not show any variation



Q4 General Science

What happens to the energy of an object just before it hits the ground while falling freely?

- A. Its kinetic energy becomes highest, and its potential energy becomes lowest.
- B. Both its kinetic and potential energy become zero.
- C. Its potential energy is at its highest, and its kinetic energy becomes lowest.
- D. It has equal amounts of potential and kinetic energy.



Q5 General Science

Which part of the Bryophyllum plant produces buds for vegetative propagation?

- A. Flower
- B. Leaf margins
- C. Pedicel
- D. Tip of the leaf



Q6 General Science

Select the correct option regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Zinc can displace copper from copper sulphate solution.

Reason (R): Zinc is less reactive than copper.

- A. Both A and R are true, and R is not the correct explanation of A.
- B. A is false, but R is true.
- C. Both A and R are true, and R is the correct explanation of A.
- D. A is true, but R is false.



Q7 General Science

What helps in the upward movement of water and minerals in plants?

- A. Transpiration pull and root pressure
- B. Active transport in leaf cells
- C. Diffusion of gases in stomata
- D. Conversion of sunlight into starch



Q8 General Science

Adding dilute hydrochloric acid to zinc granules produces hydrogen gas. This is an example of which of the following?

- A. Physical change
- B. Chemical change
- C. Mixture formation
- D. Dissolution



Q9 General Science

In daily life, the heating effect of electric current is used in which of the following?

- A. Electric bell and buzzer
- B. Electric fan and motor
- C. LED and torch
- D. Electric heater, electric iron, and fuse



Q10 General Science

Which of the following is a characteristic property of ionic compounds?

- A. Insoluble in water
- B. Low melting point
- C. Poor electrical conductivity in molten state
- D. Strong electrostatic forces between ions ✓

Q11 General Science

The velocity-time graph of a particle moving with uniform acceleration is a:

- A. curve concave upward
- B. straight line inclined to time axis ✓
- C. vertical line
- D. horizontal line

Q12 General Science

What is the ratio of carbon to oxygen by mass, in carbon dioxide?

- A. 3:8 ✓
- B. 2:4
- C. 1:2
- D. 6:8

Q13 General Science

What is the function of the secretions from the prostate gland and seminal vesicles in the male reproductive system?

- A. To destroy weak sperms
- B. To prevent mixing of urine and sperms
- C. To eliminate waste from sperms
- D. To provide nutrition and aid in sperm transport ✓

Q14 General Science

What is formed when ethanol is oxidised using an oxidising agent like alkaline KMnO_4 ?

- A. Acetone
- B. Ethanoic acid ✓
- C. Methane
- D. Methanoic acid

Q15 General Science

Ethanoic acid reacts with ethanol in the presence of concentrated H_2SO_4 to form:

- A. sodium acetate
- B. methanol
- C. ethyl ethanoate ✓
- D. acetone

Q16 General Science

In the electrolytic refining of copper, which of the following correctly describes the role of electrodes?

- A. Both electrodes are made of pure copper
- B. Both electrodes are made of impure copper
- C. Impure copper is used as anode and pure copper as cathode ✓
- D. Pure copper is used as anode and impure copper as cathode

Q17 General Science

Which of the following statements is true regarding the twinkling of the stars?

- (i) The stars twinkle as they have light of their own.
- (ii) The stars twinkle due to reflection of light.
- (iii) There is apparent change in the position of the star during the night time.
- (iv) The stars twinkle due to atmospheric refraction.

- A. Both (i) and (iv)
- B. Both (iii) and (iv) ✓
- C. Both (ii) and (iii)
- D. Both (i) and (ii)

Q18 General Science

If an object is at infinity in front of a convex lens, the image is formed:

- A. at F ✓
- B. at 2F
- C. at infinity
- D. between F and 2F



Q19 General Science

If the radius of the Earth is halved and the masses of both interacting objects are tripled, while keeping the distance between them unchanged, how will the gravitational force between them change?

- A. Increases 36 times
- B. Decreases 3 times
- C. Increases 3 times
- D. Increases 9 times

**Q20 General Science**

In stethoscopes, the sound of the heartbeat is transmitted to the doctor's ears because:

- A. the sound waves undergo successive refraction in the tube
- B. the sound waves are absorbed by the tube walls
- C. the sound waves are guided by multiple reflections in the tube
- D. the sound waves are amplified by electricity

**Q21 General Science**

Which of the following statements is correct?

- A. Magnetic field lines always emerge from the north pole of a magnet and enter the south pole outside the magnet.
- B. The magnetic field at a point is zero when field lines are dense.
- C. Magnetic field lines intersect each other.
- D. Magnetic field lines start from the south pole and end at the north pole.

**Q22 General Science**

What happens to an atom when it loses an electron?

- A. It becomes an anion
- B. It becomes a cation
- C. It becomes a molecule
- D. It becomes neutral

**Q23 General Science**

Which of the following cell organelle is present ONLY in animal cells but not in plant cells?

- A. Golgi apparatus
- B. Vacuole
- C. Mitochondria
- D. Centrosome

**Q24 General Science**

A train starts from rest and reaches a velocity of 36 km/hr in 3 minutes with uniform acceleration. What is the distance covered by the train during this time?

- A. 900 m
- B. 750 m
- C. 250 m
- D. 500 m

**Q25 General Science**

Food items such as wheat, rice, vegetables, fruits and meat contain varying amounts of pesticide residues due to which of the following phenomena?

- A. Photosynthesis
- B. Eutrophication
- C. Transpiration
- D. Biological magnification



General Science

25 Questions • Answer Key

Q1 General Science

What do the ovary and ovule form after fertilisation in plants?

- A. Ovary forms the seed and ovule forms the embryo.
- B. Ovary forms the fruit and ovule forms the seed. ✓
- C. Ovary forms the fruit and ovule forms the cotyledons.
- D. Ovary forms the plumule and ovule forms the radicle.

Q2 General Science

Starting from rest, a car attains a velocity of 10 m/s in 20 s. Braking reduces the velocity to 5 m/s in the next 5 s. What is the respective acceleration in the two scenarios?

- A. 0.5 m/s² ; -1 m/s² ✓
- B. 1 m/s² ; 0.5 m/s²
- C. -1 m/s² ; 0.5 m/s²
- D. 0.5 m/s² ; 1 m/s²

Q3 General Science

An atom contains 17 electrons and 18 neutrons. Find the number of protons.

- A. 35.5
- B. 36
- C. 18
- D. 17 ✓

Q4 General Science

In which of the following reactions does colour change, gas evolution, and solid residue formation, all occur simultaneously during decomposition?

- A. $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$
- B. $2\text{AgCl} \rightarrow 2\text{Ag} + \text{Cl}_2$
- C. $\text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbO} + \text{NO}_2 + \text{O}_2$ ✓
- D. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$

Q5 General Science

If the value of the Universal Gravitational Constant (G), the mass of the Earth (M), and the radius of the Earth (R) are known, which equation is used to calculate the acceleration due to gravity (g) near the Earth's surface?

- A. $g = \text{GM}/\text{R}^2$ ✓
- B. $\text{R}^2/(\text{GM})$
- C. $g = \text{GR}/\text{M}^2$
- D. $g = \text{GM}/\text{R}$

Q6 General Science

What is the correct definition of one unit of force (1 newton)?

- A. The force needed to move a 1 kg object to a distance of 1 metre
- B. The force required to keep an object at rest
- C. The force that causes a 1 g object to accelerate at 1 metre
- D. The force that causes a 1 kg object to accelerate at 1 m/s² ✓

Q7 General Science

When an iron nail is dipped in copper sulphate solution, which of the following observations confirms that a displacement reaction has occurred?

- A. The solution remains blue, and the iron nail remains shiny.
- B. The solution turns colourless, and hydrogen gas is released.
- C. The blue colour of the copper sulphate solution fades, and a reddish-brown deposit appears on the iron nail. ✓
- D. A white precipitate is formed.

Q8 General Science

Which proteins are essential for muscle contraction and relaxation?

- A. Myoglobin and haemoglobin
- B. Contractile proteins ✓
- C. Elastin and fibrin
- D. Keratin and collagen



Q9 General Science

An electric geyser has a power of 2200 W when it is operated at 220 V. How much will be the current flowing through the heater?

A. 10 A



B. 1 A

C. 1100 A

D. 100 A

Q10 General Science

A mixture differs from a compound in that:

A. it has fixed proportions of elements

B. its components retain their properties



C. its components cannot be separated

D. it shows combined properties only

Q11 General Science

Which of the following statements is true about work done by a constant force?

A. It is always positive

B. It depends on the path of motion

C. It depends only on the initial and final positions



D. It is independent of displacement

Q12 General Science

In a laboratory, a student mixes starch in water and observes that the mixture is neither a true solution nor a suspension. What property of this mixture confirms it is a colloidal solution?

A. The mixture is completely transparent and does not scatter light.

B. The particles scatter a beam of light but do not settle on standing.



C. The particles settle down after some time.

D. The particles are visible to the naked eye.

Q13 General Science

In wastewater treatment plant, the biogas is obtained from which of the following substance?

A. Coconut husk

B. Dried leaves

C. Banana peels

D. Sludge

**Q14 General Science**

Which of the following animals produces infrasound?

A. Whales and elephants



B. Birds and snakes

C. Dogs and cats

D. Horses and cows

Q15 General Science

What was the primary goal of the Chipko Movement of the Garhwal region?

A. Protection of the forest



B. Cutting of forest

C. Grazing of forest

D. Afforestation

Q16 General Science

Which of the following features enables simple squamous epithelium to efficiently carry out diffusion?

A. Flat, thin, and closely packed cells



B. Presence of multiple layers of cells

C. Thick cytoplasm with large nuclei

D. Cells with cilia for movement

Q17 General Science

In a hypotonic solution, which of the following statements is correct for animal tissues compared with plant tissues?

A. Animal cells have thicker cellulose walls than plants.

B. Animal cells are more likely to lyse without an external wall.



C. Animal cells shrink more than plant cells in dilute media.

D. Animal cells resist swelling due to a rigid wall.

Q18 General Science

The principal focus of a spherical mirror is defined as:

A. The midpoint of the radius of curvature

B. The distance between object and image

C. The point on the principal axis where parallel rays converge (or appear to diverge) after reflection



D. The center of the mirror's reflecting surface



Q19 General Science

If two daughter cells produced by cell division show minor differences in their structure, which process during DNA copying most likely caused these variations?

A. The absence of DNA blueprints in the nucleus

B. Minor variations occur during DNA copying due to the inherent unreliability of biochemical reactions



C. Errors in protein synthesis after DNA copying

D. The separation of DNA copies into new cells is incomplete

Q20 General Science

The Tyndall effect is observed when:

A. light reflects from a mirror surface

B. light is absorbed by particles in a solution

C. light passes through a vacuum

D. light is scattered by very fine particles suspended in a medium

**Q21 General Science**

Which of the following statements is/are correct?

- a. Zinc granules when placed in dilute sulphuric acid, hydrogen gas is evolved.
- b. Zinc granules when placed in sodium hydroxide solution forms zinc hydroxide.
- c. Zinc granules when placed in sodium hydroxide forms sodium zincate.

A. a and b

B. Only b

C. a and c



D. Only a

Q22 General Science

Which of the following statements is correct about Ohm's law?

A. Current is inversely proportional to voltage at constant temperature.

B. Ohm's law is applicable to all materials at all temperatures.

C. Current is directly proportional to voltage at constant temperature.



D. Resistance remains constant only for non-ohmic conductors.

Q23 General Science

In a 250 mL solution, 5 g of solute is dissolved. What is the concentration (mass by volume %) of the solution?

A. 5%

B. 2%



C. 20%

D. 0.2%

Q24 General Science

The process of transfer of pollen grains from one flower to the stigma of another flower is called ____.

A. pollination



B. gestation

C. guttation

D. germination

Q25 General Science

Why is graphite a good conductor of electricity?

A. It melts at low temperatures.

B. It forms strong ionic bonds.

C. It has free-moving electrons.



D. It absorbs water easily.



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following statements is/are NOT true regarding the work done by a constant force acting on a body?

- (i) The work done by the force can never be negative.
- (ii) If the direction of the force and displacement of the body is same, the work done will be positive.
- (iii) The S.I. unit of work done is Pascal.

- A. Only (i)
- B. Only (ii)
- C. Both (i) and (iii) ✓
- D. Both (ii) and (iii)

Q2 General Science

Where are protons found in an atom?

- A. Energy Levels
- B. Nucleus ✓
- C. Orbitals
- D. Electron Cloud

Q3 General Science

The regular changes in the ovary and uterus during egg formation is called _____.

- A. fertilisation cycle
- B. estrous cycle
- C. menstrual cycle ✓
- D. circadian rhythm

Q4 General Science

A girl clapped her hands near a cliff and heard the echo after 4 s. What is the distance of the cliff from the girl if the speed of the sound is taken as 320 m s^{-1} ?

- A. 1280 m
- B. 320 m
- C. 640 m ✓
- D. 80 m

Q5 General Science

What does variation within a species ensure?

- A. Better adaptability and chances of survival ✓
- B. Similar response to environmental changes
- C. No mutations
- D. No evolution

Q6 General Science

Which of the following is/are true about the acceleration due to gravity?

- (i) The value of acceleration due to gravity depends on the mass of the object falling under the effect of gravity.
- (ii) The value of acceleration due to gravity is universally constant.

- A. Only (ii)
- B. Neither (i) nor (ii) ✓
- C. Both (i) and (ii)
- D. Only (i)

Q7 General Science

Rough endoplasmic reticulum (RER) bears ____ for protein synthesis, while smooth endoplasmic reticulum (SER) synthesizes ____.

- A. pores; RNA
- B. ribosomes; lipids ✓
- C. enzymes; sugars
- D. lysosomes; DNA

Q8 General Science

Which feature is common to all solids?

- A. Definite volume and shape under normal conditions ✓
- B. Ability to flow like liquids in open containers
- C. Easily compressible structure when pressure applied
- D. Infinite expansion capability with added energy



Q9 General Science

From a distance–time graph, an object moves from point A to point B, covering a distance ($s_2 - s_1$) in time ($t_2 - t_1$).

Which of the following correctly represents the speed (v) of the object?

A. $v = (s_1 - s_2)(t_1 - t_2)$

B. $v = (s_2 - s_1)(t_2 - t_1)$

C. $v = (s_2 - s_1)/(t_2 - t_1)$

D. $v = (t_2 - t_1)/(s_2 - s_1)$

Q10 General Science

In the reaction $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$, which substance is oxidised?

A. Copper

B. Copper oxide

C. Water

D. Hydrogen

Q11 General Science

What happens to the magnetic field strength produced by a circular coil if the number of turns (n) is increased while keeping the current constant?

A. It becomes n times larger than for a single turn.

B. It remains the same as for a single turn.

C. It only increases if the diameter is also increased.

D. It decreases inversely with n .

Q12 General Science

The sulphide ores of metals, which lie in the middle of activity series, are first converted to oxides. The necessary condition for this conversion is:

A. absence of oxygen

B. presence of excess air

C. presence of high pressure

D. presence of high temperature

Q13 General Science

Which one of the following is NOT a tissue?

A. Blood

B. Nerves

C. Muscles

D. Red blood cells

Q14 General Science

Which of the following statements is correct about the absolute refractive index?

A. It is always greater than 1.

B. It is always less than 1.

C. It is always negative.

D. It is always equal to 1.

Q15 General Science

How is the timely sowing of crops helpful for the farmer?

A. It increases weed growth.

B. It attracts pests.

C. It decreases crop yield.

D. It avoids competition with weeds.

Q16 General Science

What is typically involved in an addition reaction?

A. Functional groups are replaced by others

B. Atoms get added to unsaturated bonds

C. Removal of atoms from molecules takes place

D. Oxidation changes without new bonding

Q17 General Science

Which of the following is NOT correct according to the sign convention for spherical lenses?

A. Distances measured to the right of the optical centre are positive.

B. Object is always placed on the left of the lens.

C. Focal length of a concave lens is taken as negative.

D. Focal length of a convex lens is taken as negative.

Q18 General Science

According to Bohr's model of an atom, the 'M' shell is represented by the principal quantum number 'n' equal to:

A. 4

B. 3

C. 2

D. 1



Q19 General Science

The sexually transmitted disease AIDS is caused by which of the following?

- A. Protozoa
- B. Helminths
- C. Bacteria
- D. Virus



Q20 General Science

In uniform circular motion, the direction of velocity of an object is:

- A. Along the radius, away from the center
- B. Perpendicular to the axis of rotation
- C. Along the radius, toward the center
- D. Tangential to the circular path



Q21 General Science

Which of the following types of reactions is a neutralisation reaction?

- A. Decomposition
- B. Double displacement
- C. Combustion
- D. Single displacement



Q22 General Science

When the terminal phosphate linkage in ATP is broken using water, the energy equivalent to ____ kJ/mol is released.

- A. 50
- B. 71.5
- C. 30.5
- D. 5



Q23 General Science

What is the best way to manage non-biodegradable waste such as plastic?

- A. Recycle and reuse it
- B. Bury it in soil
- C. Burn it in open air
- D. Mix it with compost



Q24 General Science

What does the presence of parallel straight magnetic field lines inside a solenoid indicate?

- A. The magnetic field is infinite inside the solenoid
- B. The magnetic field is uniform inside the solenoid
- C. The magnetic field is non-uniform and changes at different points
- D. The magnetic field is zero inside the solenoid



Q25 General Science

Why does the temperature of ice remain constant during the melting of ice?

- A. Ice reflects heat
- B. Heat is used to break the bonds between molecules
- C. Ice becomes denser
- D. Ice absorbs heat but does not melt



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following is true about the homologous series?

- A. All members have the same boiling point.
- B. All members have different functional groups.
- C. All members have the same molecular weight.
- D. Each successive member differs by $-CH_2-$ group. ✓

Q2 General Science

If the acceleration of a body is halved and mass remains constant, the force will _____.

- A. Become zero
- B. Halve ✓
- C. Remain the same
- D. Double

Q3 General Science

When an iron nail is placed in copper sulphate solution, what is observed?

- A. Hydrogen gas is evolved.
- B. No reaction occurs.
- C. Copper dissolves and iron deposits on the nail.
- D. Iron dissolves and copper deposits on the nail. ✓

Q4 General Science

Rabi crops are harvested in which season?

- A. Monsoon
- B. Winter
- C. Summer ✓
- D. Autumn

Q5 General Science

A convex lens forms an image of an object placed 30 cm away. The image is formed at 60 cm on the other side. The magnification is:

- A. $+1/2$
- B. $+2$
- C. -2 ✓
- D. $-1/2$

Q6 General Science

To hear a distinct echo, what should be the minimum time interval between the original sound and the reflected sound?

- A. 1.0 s
- B. 0.2 s
- C. 0.01 s
- D. 0.1 s ✓

Q7 General Science

What are the primary products formed during the complete combustion of most carbon compounds?

- A. Carbon monoxide and water
- B. Carbon dioxide, water, and energy ✓
- C. Alcohols and carboxylic acids
- D. Soot and carbon dioxide

Q8 General Science

Which statement is correct about magnetic field lines?

- A. They start from the south pole.
- B. They never intersect each other. ✓
- C. They can intersect at the poles.
- D. They form random curves.

Q9 General Science

Identify the correct matches mentioned in column A with column B.

Column A	Column B
(p) Sepal and petal	(i) Reproductive part
(q) Stamen and pistil	(ii) Accessory part
(r) Stigma	(iii) Stamen
(s) Pollen grain	(iv) Pistil

- A. p – ii, q – i, r – iv, s – iii ✓
- B. p – i, q – ii, r – iii, s – iv
- C. p – iii, q – i, r – iv, s – ii
- D. p – iv, q – iii, r – ii, s – i



Q10 General Science

Which part of Bryophyllum develops new plantlets for vegetative propagation?

- A. Stem
- B. Flower
- C. Leaf margin
- D. Root

Q11 General Science

Which of the following statements is true about the potential energy?

- A. It cannot be converted into other forms of energy.
- B. It is only present when an object is moving.
- C. It is energy stored due to position or condition.
- D. It depends on the object's motion.

Q12 General Science

Which activity of insects directly causes the loss of plant nutrients?

- A. Sucking the cell sap
- B. Eating only fallen leaves
- C. Laying eggs on the plant
- D. Boring into the soil

Q13 General Science

Which of the following is a characteristic of liquids?

- A. Fixed shape and volume
- B. Fixed shape but variable volume
- C. No fixed shape or volume
- D. No fixed shape but fixed volume

Q14 General Science

A ball is dropped from rest. What will be the velocity of the ball after falling 20 m?

(Take, $g = 10 \text{ m/s}^2$)

- A. 20.0 m/s
- B. 10.0 m/s
- C. 40.0 m/s
- D. 50.0 m/s

Q15 General Science

A characteristic of a colloidal solution is that:

- A. it is a homogeneous mixture
- B. it is an azeotrope
- C. it is a heterogeneous mixture
- D. it is an ideal solution

Q16 General Science

Which of the following correctly represents the sequence of colours observed on the screen when white light passes through a prism in its standard orientation?

- A. GYORVIB
- B. BYVROIG
- C. ROYGBIV
- D. VIBGYOR

Q17 General Science

Which of the following statements is correct regarding the female reproductive system?

- A. The uterus produces eggs that travel through the vagina.
- B. The cervix connects the ovaries to the uterus.
- C. The fallopian tubes carry the egg from the ovary to the uterus.
- D. A girl starts producing eggs only after she reaches puberty.

Q18 General Science

Which of the following statements about average velocity is NOT correct?

- A. It is always the same as average speed.
- B. It is measured in m/s.
- C. It depends on the direction of motion.
- D. It is the total displacement divided by total time.

Q19 General Science

Which of the following is an example of a cyclic hydrocarbon?

- A. Methane
- B. Cyclohexane
- C. Ethene
- D. Butane



Q20 General Science

Inside the lungs, rapid exchange of gases takes place between the air and the blood. Which type of epithelial tissue helps in this process?

A. Simple squamous epithelium



B. Ciliated columnar epithelium

C. Stratified squamous epithelium

D. Cuboidal epithelium

Q21 General Science

A botanist observes a plant exhibiting rapid growth at its shoot tip. Which type of plant tissue is most likely responsible for this growth?

A. Intercalary meristem

B. Apical meristem



C. Lateral meristem

D. Permanent tissue

Q22 General Science

Plastids are easily observed under a microscope because:

A. they contain DNA

B. they are large and contain pigments



C. they are colourless

D. they are very small

Q23 General Science

Which of the following combinations will consume more electrical power if connected to the same voltage source?

A. Zero resistance

B. Higher resistance

C. Lower resistance



D. Equal resistance

Q24 General Science

Which of the following is a neutralisation reaction?

A. $\text{Zn} + \text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$

B. $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$

C. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$

D. $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

**Q25 General Science**

Which of the following does NOT represent a pair of isotopes?

A. $^{35}_{17}\text{Cl}$ & $^{38}_{17}\text{Cl}$



B. $^{35}_{17}\text{Cl}$ & $^{37}_{17}\text{Cl}$

C. ^3_1H & ^2_1H

D. ^1_1H & ^2_1H



General Science

25 Questions • Answer Key

Q1 General Science

Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

Assertion (A): Soap solution appears cloudy.

Reason (R): The soap micelles are large enough to scatter light.

A. Both A and R are true, and R is the correct explanation of A. ✓

B. A is false, but R is true.

C. A is true, but R is false.

D. Both A and R are true, and R is not the correct explanation of A.

Q2 General Science

A neuron receives nerve impulse from another neuron through ____.

A. Dendrite ✓

B. Synapse

C. Axon

D. Cell body

Q3 General Science

Which of the following is true for the plants raised by vegetative propagation?

Statement A: Vegetatively propagated plant can bear flowers and fruits earlier than those produced from seeds.

Statement B: Vegetatively propagated plants are genetically dissimilar to the parent plant.

A. Both Statement A and statement B is incorrect

B. Both Statement A and statement B is correct

C. Statement A is correct but statement B is incorrect ✓

D. Statement A is incorrect but statement B is correct

Q4 General Science

Which meristem is located near the nodes in some plants?

A. Apical meristem

B. Root meristem

C. Intercalary meristem ✓

D. Lateral meristem

Q5 General Science

Which of the following statements about 'Law of conservation of mass' is correct?

A) Mass can be changed when the reaction takes place.

B) During the chemical reaction, atoms are rearranged.

C) Mass within a closed system remains the same over time.

A. Only A

B. only B and C ✓

C. Only A and B

D. Only B

Q6 General Science

Which of the following outcomes identifies meiosis rather than mitosis?

A. Four cells, half number ✓

B. One larger cell, double number

C. Two identical cells, same number

D. Many cells, same number

Q7 General Science

Which of the following is an example of judicious use of natural resources?

A. Deforestation

B. Excessive use of fossil fuels

C. Open mining

D. Rainwater harvesting ✓

Q8 General Science

The magnification (m) produced by a lens is defined as the ratio of _____.

A. the object height to the image height

B. the object distance to the image distance

C. the image height to the object height ✓

D. the focal length to the object distance



Q9 General Science

Which of the following steps can increase the expected yield of a crop?

- A. Irrigation at terminal stage of crop.
- B. Irrigation at early stages of crop.
- C. Irrigation at every stage of crop.
- D. Irrigation at right stage of crop. ✓

Q10 General Science

What is the colour of the precipitate formed when silver nitrate reacts with sodium chloride?

- A. Green
- B. Yellow
- C. White ✓
- D. Blue

Q11 General Science

When an object is placed between the pole (P) and the focus (F) of a concave mirror, what kind of image is formed?

- A. Real, inverted, and enlarged
- B. Virtual, erect, and enlarged ✓
- C. Virtual, inverted, and diminished
- D. Real, inverted, and diminished

Q12 General Science

In which device is the heating effect of current used to melt a metal?

- A. Electric fan
- B. Electric bell
- C. Electric bulb
- D. Electric fuse ✓

Q13 General Science

Which of the following is a practical application of Archimedes' Principle in daily life?

- A. Using a prism for light dispersion
- B. Design of ships and submarines ✓
- C. Operating a pendulum
- D. Using a thermometer

Q14 General Science

Which of the following is a ring-chain hydrocarbon?

- A. Benzene ✓
- B. Heptyne
- C. Ethene
- D. Propane

Q15 General Science

The motion of a freely falling stone is an example of:

- A. non-uniform motion ✓
- B. uniform motion
- C. rectilinear motion with constant speed
- D. motion with zero acceleration

Q16 General Science

A tube that grows out of the pollen grain travels through the style to reach which of the following parts of the flower?

- A. Petal
- B. Ovary ✓
- C. Filament
- D. Sepal

Q17 General Science

Why are the ceilings of places like concert halls and cinema halls usually made curved?

- A. To make the hall look more attractive
- B. To block the sound from reflecting
- C. To reduce the size of the building
- D. To help sound reflect and reach all parts of the hall ✓

Q18 General Science

A block of mass M is subjected to two opposing forces F_1 and F_2 ($F_1 > F_2$). If the frictional force (F_f) acting opposite to F_1 is such that the net acceleration of the block is half the acceleration it would have experienced if friction were zero, what is the relation for F_f ?

- A. $F_f = (F_1 - F_2)/2$ ✓
- B. $F_f = 2(F_1 - F_2)$
- C. $F_f = (F_1 + F_2)/2$
- D. $F_f = (F_1 - F_2)$



Q19 General Science

What is the formula of washing soda?

- A. NaOH
- B. Na_2CO_3
- C. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ ✓
- D. NaHCO_3

Q20 General Science

A straight conductor is carrying current in the +x-direction, this conductor is placed in a magnetic field pointing in the +y-direction. What will be the direction of motion of the conductor?

- A. positive x direction
- B. positive z direction ✓
- C. negative y direction
- D. negative x direction

Q21 General Science

Which of the following is a basic requirement for maintaining good reproductive health?

- A. Safe sex practices and awareness about contraception ✓
- B. Ignoring changes during adolescence
- C. Avoiding all medicines
- D. Sharing personal hygiene products

Q22 General Science

The principle of conservation of energy is applicable to _____.

- A. every electrical system exclusively
- B. every chemical system only
- C. every physical process in general ✓
- D. every mechanical system only

Q23 General Science

Which statement from the following correctly defines the law of constant proportions?

- A. The mass of a compound is always greater than the sum of its elements.
- B. A compound always contains elements in a fixed ratio by mass. ✓
- C. Elements combined in random ratios to form compounds.
- D. Compounds can vary their composition based on temperature.

Q24 General Science

Which of the following are the most reactive and the least reactive metals, respectively, in a reactivity series?

- A. Magnesium, Gold
- B. Potassium, Gold ✓
- C. Sodium, Gold
- D. Magnesium, Silver

Q25 General Science

Which of the following statements is/are correct in the context of a mixture and a compound?

- A) A mixture has a variable composition while in a compound, the composition of each new substance is always fixed.
- B) A mixture shows the different properties of the constituent substance while in a compound, the new substance shows the same properties.
- C) A mixture has a non-variable composition while in a compound, the composition of each new substance is always changing.

- A. Only A ✓
- B. Only B
- C. Both A and B
- D. Only C



General Science

25 Questions • Answer Key

Q1 General Science

Which statement best defines the term 'formula unit mass' as used in the context of ionic compounds?

- A. It is the product of the atomic masses of all elements in a compound.
- B. It is the sum of the atomic masses of all atoms present in a formula unit of an ionic compound. ✓
- C. It is the total number of atoms in a molecule of a covalent compound.
- D. It is the mass of one mole of a molecular compound.

Q2 General Science

Materials that have NOT been broken down by the action of bacteria or saprophytes, but somehow degraded by physical processes, are called:

- A. Dividable
- B. Non-biodegradable ✓
- C. Decaying
- D. Biodegradable

Q3 General Science

Which of the following metals can be shaped into leaves by pressure of the fingers?

- A. Gold
- B. Sodium ✓
- C. Iron
- D. Silver

Q4 General Science

Evaporation takes place at which temperature?

- A. Only at 100°C
- B. At any temperature ✓
- C. Only at boiling point
- D. Only below freezing point

Q5 General Science

In a fluid, the buoyant force acting on a submerged or floating object always acts _____.

- A. vertically downward
- B. vertically upward ✓
- C. along the direction of motion of the object
- D. in a direction depending on the shape of the object

Q6 General Science

Which of the following is NOT made up of connective tissue?

- A. Muscles ✓
- B. Bone
- C. Blood
- D. Cartilage

Q7 General Science

Which of the following is NOT an example of work done?

- A. Pulling a trolley along a flat surface
- B. Sliding luggage on the floor
- C. Pushing a wall ✓
- D. Lifting a brick from the floor

Q8 General Science

Refer to the two statements given below and select the correct option.

Statement A: Carboxylic acids are strong acids that completely ionise in water.
Statement B: Ethanoic acid is a weak acid compared to hydrochloric acid.

- A. Statement A is correct but B is incorrect.
- B. Both statements A and B are incorrect.
- C. Statement A is incorrect but B is correct. ✓
- D. Both statements A and B are correct.



Q9 General Science

What is the term used for the division of cytoplasm following nuclear division?

- A. Karyokinesis
- B. Cytokinesis ✓
- C. Interphase
- D. Chromatin condensation

Q10 General Science

According to the sign convention for spherical mirrors, which option is correct about the focal length of a concave mirror?

- A. Sometimes negative
- B. Always positive
- C. Always negative ✓
- D. Sometimes positive

Q11 General Science

Consider the following statements regarding the characteristics of compounds and select the correct option.

Statement 1: Elements react to form new compounds.
Statement 2: Each new substance formed is of variable composition.
Statement 3: The constituents can be separated only by chemical or electrochemical reactions.

- A. Only statements 1 and 3 are correct. ✓
- B. Only statements 1 and 2 are correct.
- C. Statements 1, 2 and 3 are correct.
- D. Statements 1, 2 and 3 are incorrect.

Q12 General Science

In daily life, the principle of force on a current-carrying conductor is used in which of the following devices?

- A. Electric heater
- B. Electric fuse
- C. Electric bell
- D. Electric motor ✓

Q13 General Science

In terms of chromosome contribution, which of the following is correct?

- A. Both parents contribute either X or Y
- B. Mother can contribute X or Y
- C. Mother always contributes X, father contributes X or Y ✓
- D. Father contributes only X chromosome

Q14 General Science

Which of the following sound frequencies is inaudible to humans?

- A. 2000 Hz
- B. 5000 Hz
- C. 25,000 Hz ✓
- D. 50 Hz

Q15 General Science

What happens to the uterine lining in human females if the egg is not fertilized?

- A. It breaks down and is discharged as blood and mucus. ✓
- B. It is reabsorbed into the body.
- C. It thickens further for another week.
- D. It remains intact for the next cycle.

Q16 General Science

When two bodies interact, the action and reaction forces

- A. act on different bodies ✓
- B. produce the same effect on both bodies
- C. act on the same body
- D. act in the same direction

Q17 General Science

What is the geometric relationship between the principal axis and the reflecting surface of a spherical mirror at the point of the pole P?

- A. The principal axis intersects the mirror at an oblique angle.
- B. The principal axis is parallel to the mirror surface.
- C. The principal axis is tangent to the mirror surface.
- D. The principal axis is normal (perpendicular) to the mirror at its pole. ✓



Q18 General Science

Corrosion causes damage to the metal body, especially:

- A. in both dry air and oil
- B. in moist air ✓
- C. by galvanisation
- D. in dry air

Q19 General Science

An electric heater draws 5 A of current when connected to a 70 V source. If the potential difference is increased to 126 V, what will be the new current drawn by the heater?

- A. 3 A
- B. 9 A ✓
- C. 8 A
- D. 90 A

Q20 General Science

Which of the following is NOT an example of the third law of motion?

- A. Foot pushes the ground backward and ground pushes the foot forward.
- B. A rocket moving upward due to gases expelled downward.
- C. The swimmer pushes the water backward with her hands.
- D. Pushing a stationary car and making it move. ✓

Q21 General Science

If a fertilised egg reaches the uterus but finds the lining thin and not spongy, what could happen?

- A. The egg survives longer than usual.
- B. The egg gets fertilised again.
- C. Menstruation is delayed but still occurs.
- D. The embryo fails to implant properly and is expelled. ✓

Q22 General Science

In mitosis, how do the chromosomes in daughter cells compare with those in the parent cell?

- A. Daughter cells have half the number of chromosomes as the parent cell.
- B. Daughter cells contain twice the number of chromosomes as the parent cell.
- C. Daughter cells have the same number of chromosomes as the parent cell. ✓
- D. Daughter cells lose all chromosomes during division.

Q23 General Science

_____ generally has long, unstable carbon chains.

- A. Water
- B. Vegetable oil ✓
- C. Table salt
- D. Glucose

Q24 General Science

In India, biodiversity hotspots are primarily located in _____.

- A. the Western Ghats and Eastern Himalayas ✓
- B. Central India and the Deccan Plateau
- C. the Mediterranean, Sardinia and Sicily
- D. the Cold desert of Ladakh

Q25 General Science

The maximum number of electrons in a shell is given by:

- A. $2n^2$ ✓
- B. $2n$
- C. $\frac{n^2}{2}$
- D. n^2



General Science

25 Questions • Answer Key

Q1 General Science

Which part of the brain is primarily responsible for higher-level thought processes and complex interpretation of sensory information?

- A. The forebrain ✓
- B. The cerebellum
- C. The brainstem
- D. The spinal cord

Q2 General Science

What is ultrasonography used for during pregnancy?

- A. To measure the mother's weight
- B. To check the mother's heartbeat
- C. To detect birth defects and monitor the baby's growth ✓
- D. To find the blood group of the baby

Q3 General Science

In plants, after fertilisation, the ovule develops into which of the following?

- A. Embryo
- B. Seed ✓
- C. Endosperm
- D. Fruit

Q4 General Science

What will the distance-time graph look like for an object moving with uniform speed?

- A. The graph looks like a sine wave.
- B. The graph is a straight line. ✓
- C. The graph cannot be drawn.
- D. The graph is a zig zag line.

Q5 General Science

A ball is thrown up with a velocity of x m/s. The ball attains a maximum height of 50 m. What is the value of x ? (Take the value of g as 10 m/s^2)

- A. 10 m/s
- B. 100 m/s
- C. $10\sqrt{10}$ m/s ✓
- D. 1000 m/s

Q6 General Science

Which component of blood serves as the fluid matrix in which cells are suspended?

- A. Plasma ✓
- B. White blood cells
- C. Platelets
- D. Red blood cells

Q7 General Science

In a large population of sweet pea plants growing in stable conditions, which of the following best explains why genetic variation through sexual reproduction is still crucial for their long-term survival?

- A. Variation helps sweet pea plants avoid cross-pollination, maintaining purity of the parental line.
- B. Sweet pea plants reproduce faster sexually than asexually, ensuring more biomass production.
- C. Genetic variation ensures uniform flower color and height across future generations.

Hidden (recessive) alleles in sweet peas may offer resistance against future environmental stress. ✓

Q8 General Science

A student wants to separate a heterogeneous mixture of mud and water collected from a pond. Based on your understanding of mixtures, which method would be most effective and why?

- A. Chromatography, because it separates based on movement in a medium
- B. Evaporation, because it removes the solvent
- C. Filtration, because the solid particles in mud are not dissolved in water ✓
- D. Distillation, because it separates based on boiling points

Q9 General Science

In plants that reproduce by budding, which process directly initiates the formation of a new individual?

- A. Random cell death in tissues
- B. Development of seeds from flowers
- C. Localized repeated cell division at a specific site ✓
- D. Fusion of gametes from different individuals



Q10 General Science

The way of obtaining fish from natural resources is called _____.

- A. Farming fishing
- B. Culture fishing
- C. Composite fishing
- D. Capture fishing

**Q11 General Science**

The resistance of a metal wire of length 2 m is $10\ \Omega$ at 25°C . If the diameter of the wire is 0.4 mm, what will be the resistivity of the metal at that temperature?

[Given, $\pi = 3.14$]

- A. $6.3 \times 10^{-5}\ \Omega\text{m}$
- B. $1.55 \times 10^{-6}\ \Omega\text{m}$
- C. $3.6 \times 10^{-6}\ \Omega\text{m}$
- D. $6.3 \times 10^{-7}\ \Omega\text{m}$

**Q12 General Science**

Lenses are used in spectacles to correct vision because they work on the principle of _____.

- A. Refraction
- B. Reflection
- C. Diffraction
- D. Polarization

**Q13 General Science**

Which gas is released when hydrochloric acid reacts with calcium carbonate?

- A. Nitrogen
- B. Hydrogen
- C. Oxygen
- D. Carbon dioxide

**Q14 General Science**

Which of the following feature enables muscular tissue to produce movement in animals?

- A. Presence of contractile proteins
- B. Secretion of digestive enzymes
- C. Storage of fat droplets
- D. Ability to transmit nerve impulses

**Q15 General Science**

The cellular organelles are suspended in a jelly called _____.

- A. Cytoplasm
- B. Stroma
- C. Nucleoplasm
- D. Lumen

**Q16 General Science**

Which of the following statements about Newton's third law of motion is incorrect?

- A. The action and reaction forces act on the same object.
- B. The forces are equal in magnitude but opposite in direction.
- C. The forces act simultaneously on two different objects.
- D. When one object exerts a force on another, the second object exerts an equal and opposite force back.

**Q17 General Science**

Which of the following is a straight-chain saturated hydrocarbon?

- A. Propene
- B. Cyclohexane
- C. Butane
- D. Benzene

**Q18 General Science**

Consider the following statements and select the correct option.

Statement A: Small quantities of ethanol cause drunkenness.

Statement B: Intake of pure ethanol is safe for health.

- A. Both statements A and B are correct.
- B. Both statements A and B are incorrect.
- C. Statement A is correct, but B is incorrect.
- D. Statement A is incorrect, but B is correct.



Q19 General Science

A molecule of methane contains one carbon atom bonded to four hydrogen atoms. What is the chemical formula for methane?

- A. C₂H₄
- B. CH₃
- C. C₄H
- D. CH₄

**Q20 General Science**

Which method is commonly used to prevent rusting of Iron?

- A. Heating
- B. Melting
- C. Magnetising
- D. Galvanisation

**Q21 General Science**

A wire of resistivity ρ , has a length L and area of cross-section A . If the resistance of the wire is R , then which of the following is the correct relation for R ?

- A. $R = L/\rho A$
- B. $R = \rho LA$
- C. $R = A\rho/L$
- D. $R = \rho L/A$

**Q22 General Science**

A substance is said to be reduced when:

- A. it loses oxygen or gains hydrogen
- B. it loses oxygen only
- C. it loses hydrogen or gains oxygen
- D. it gains hydrogen only

**Q23 General Science**

When a force is applied at 90° to the direction of displacement of an object, the work done:

- A. is minimum but not zero
- B. is zero
- C. cannot be determined
- D. is maximum

**Q24 General Science**

Which of the following statement(s) is/are true regarding a concave lens?

- (i) A concave lens is also called a diverging lens.
- (ii) A concave lens always forms a real and inverted image of the object placed anywhere in front of it.
- (iii) A concave lens always forms a virtual and erect image of the object placed anywhere in front of it.

- A. Only (ii)
- B. Both (i) and (ii)
- C. Only (iii)
- D. Both (i) and (iii)

**Q25 General Science**

Which property best explains why solids have a definite shape and volume?

- A. The particles are randomly arranged.
- B. The particles have large spaces between them.
- C. The particles can move freely past each other.
- D. The particles are closely packed in a fixed arrangement.



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following statement(s) is/are true about the buoyant force experienced by an object when it is immersed in a fluid?

- (i) All objects experience a force of buoyancy when they are immersed in a fluid.
(ii) The magnitude of this buoyant force depends on the density of the fluid.

A. Neither (i) nor (ii)

B. Only (ii)

C. Only (i)

D. Both (i) and (ii)



Q2 General Science

Which of the following correctly represents the pathway of air during respiration in human beings?

A. Nostrils → Throat → Lungs → Alveoli



B. Nostrils → Food pipe → Heart → Lungs

C. Mouth → Heart → Lungs → Diaphragm

D. Mouth → Stomach → Lungs → Alveoli

Q3 General Science

Which factor does NOT increase the rate of evaporation?

A. Decrease in temperature



B. Increase in wind speed

C. Decrease in humidity

D. Increase in surface area

Q4 General Science

Which rule helps in identifying the direction of the force acting on a current-carrying conductor placed in a magnetic field?

A. Fleming's left-hand rule



B. Maxwell's corkscrew rule

C. Ohm's law

D. Right-hand thumb rule

Q5 General Science

Which of the following is the energy possessed by a body by virtue of its position, shape and configuration?

A. Kinetic Energy

B. Potential Energy



C. Heat Energy

D. Muscular Energy

Q6 General Science

A reaction in which the positive and negative ions of two ionic compounds exchange places to form two new compounds is an example of:

A. Combination reaction

B. Decomposition reaction

C. Displacement reaction

D. Double displacement reaction



Q7 General Science

When copper reacts with oxygen on heating in air, which of the following correctly represents the product formed, along with its colour?

A. Copper(II) oxide (CuO) – black in colour



B. Copper(II) oxide (CuO) – brown in colour

C. Copper(I) oxide (Cu₂O) – white in colour

D. Copper(I) oxide (Cu₂O) – red in colour

Q8 General Science

According to Right Hand Thumb Rule, if the curling of the fingers of our right hand gives the direction of magnetic field, then the thumb of our right hand is aligned along the direction of which physical quantity?

A. Induced Current in the conductor

B. Electric field applied across the conductor

C. Force acting on the conductor

D. Current flowing through the conductor



Q9 General Science

If the power of a lens is -4 D , which of the following is true about the lens?

- ☒ A. It is a concave lens of focal length 25 cm.
- ☐ B. It is a convex lens of focal length 2.5 m.
- ☐ C. It is a convex lens of focal length 25 cm.
- ☐ D. It is a concave lens of focal length 0.4 m.

Q10 General Science

A plant breeder crosses two pure-breeding pea plants—one producing round seeds and the other producing wrinkled seeds. Based on Mendel's findings, what phenotype would all the seeds in the F_1 generation display?

- ☐ A. Half round, half wrinkled
- ☐ B. A mix of round and wrinkled in varying proportions
- ☒ C. Round seeds
- ☐ D. Wrinkled seeds

Q11 General Science

Which of the following is true for mitosis but not for meiosis?

- ☐ A. Promotes genetic variation
- ☒ B. Produces identical daughter cells
- ☐ C. Results in haploid cells
- ☐ D. Occurs in reproductive cells

Q12 General Science

Arrange the following steps in correct sequence during the process of fragmentation-based reproduction:

1. Growth of lost body parts through mitosis
2. Breakdown of body/filament into fragments
3. A Mature organism lives independently
4. Each fragment develops into a complete organism

- ☐ A. 4 – 2 – 1 – 3
- ☒ B. 2 – 1 – 4 – 3
- ☐ C. 2 – 4 – 1 – 3
- ☐ D. 1 – 2 – 4 – 3

Q13 General Science

Which of the following correctly represents the mass number of an element?

- ☐ A. The number of protons only
- ☐ B. The difference between protons and neutrons
- ☐ C. The number of electrons
- ☒ D. The sum of protons and neutrons

Q14 General Science

The process by which the eye lens changes its focal length to focus on near or distant objects is called _____.

- ☐ A. Adaptation
- ☐ B. Reflection
- ☒ C. Accommodation
- ☐ D. Adjustment

Q15 General Science

The common name for *Apis florae* is:

- ☐ A. The Asian bee
- ☐ B. The dwarf bee
- ☒ C. The little bee
- ☐ D. The giant bee

Q16 General Science

Metals are generally good conductors of heat. Which of the following is an exception to this?

- ☒ A. Mercury
- ☐ B. Aluminium
- ☐ C. Copper
- ☐ D. Iron

Q17 General Science

Which of the following is a heterogeneous mixture?

- ☐ A. Sugar solution
- ☒ B. Sand and water
- ☐ C. Salt solution
- ☐ D. Air

Q18 General Science

Which process occurring in the Golgi apparatus shows its role in synthesis?

- ☒ A. Formation of complex sugars from simple sugars
- ☐ B. Synthesis of nucleic acids from ribosomes
- ☐ C. Conversion of proteins into amino acids
- ☐ D. Absorption of water through osmosis



Q19 General Science

When the distance–time graph of an object is a curved line, it indicates that _____.

A. The object is moving with a constant speed

B. The speed of the object is changing with time



C. There is no acceleration in the motion

D. The object remains stationary

Q20 General Science

When the frequency of vibration of a sound source increases, the resulting sound will have _____.

A. Higher pitch



B. Greater loudness

C. Lower pitch

D. Smaller amplitude

Q21 General Science

Which of the following conditions are essential for the rusting of iron?

A. Presence of only oxygen

B. Presence of only water (moisture)

C. Presence of both oxygen and water (moisture)



D. Presence of carbon dioxide

Q22 General Science

If a particle covers a distance of 12 m in every 3 s, what is the slope of its distance–time graph?

A. 12.0 m/s

B. 0.25 m/s

C. 3.0 m/s

D. 4.0 m/s

**Q23 General Science**

Which of the following is most important for child-bearing and women's health?

A. Intake of too much caffeine

B. Proper diet and prenatal care



C. Smoking daily

D. Skipping meals

Q24 General Science

Which of the following is a traditional water harvesting method in Rajasthan, India?

A. Johad



B. Borewell

C. Check dam

D. Hand pump

Q25 General Science

Which of the following is a combination reaction?

A. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$



B. $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$

C. $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$

D. $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$



General Science

25 Questions • Answer Key

Q1 General Science

Arrange the following in the correct sequences of development after fertilisation in humans.

Embryo, Zygote and Foetus

- A. Zygote - Foetus - Embryo
- B. Embryo - Foetus - Zygote
- C. Zygote - Embryo - Foetus ✓
- D. Foetus - Embryo - Zygote

Q2 General Science

A decrease in oxygen availability in the environment is most likely to first impact which step of aerobic respiration in animal cells?

- A. Electron transport chain ✓
- B. Glycolysis
- C. Krebs cycle
- D. Lactic acid fermentation

Q3 General Science

Which of the following quantities determines the magnitude of the buoyant force on a body?

- A. Density of the fluid and volume displaced ✓
- B. Temperature of the fluid
- C. Surface area of the body
- D. Weight of the body

Q4 General Science

The law of conservation of mass states that:

- A. Mass always decreases during a reaction
- B. Mass can neither be created nor destroyed in a chemical reaction ✓
- C. Matter can be destroyed during reactions
- D. Matter can be created in reactions

Q5 General Science

A girl clapped her hands near a cliff and heard the echo after 8 s. What is the distance of the cliff from the girl if the speed of the sound is taken as 320 m s^{-1} ?

- A. 80 m
- B. 320 m
- C. 1280 m ✓
- D. 640 m

Q6 General Science

Corrosion of iron is commonly known as rusting, and it requires:

- A. water and atmospheric oxygen ✓
- B. iron and very cold temperatures
- C. salt and strong acid presence
- D. moisture and high acidity

Q7 General Science

The concentration of H^+ ions in a solution primarily determines its:

- A. Level of gas compressibility factor
- B. Degree of acidity in aqueous phase ✓
- C. Extent of metallic bonding strength
- D. Rate of solid crystal formation

Q8 General Science

A compound is a substance in which elements are:

- A. Physically mixed in any ratio
- B. Easily separable
- C. Mixed temporarily
- D. Chemically combined in fixed proportion ✓

Q9 General Science

Which of the following salts will have a pH close to 7 when dissolved in water?

- A. NH_4Cl
- B. NaCl ✓
- C. Na_2CO_3
- D. CH_3COONa



Q10 General Science

What type of image is always formed by a concave lens, no matter where the object is placed?

- A. Real, inverted, and enlarged
- B. Real, erect, and same size
- C. Virtual, erect, and diminished ✓
- D. Virtual, inverted, and enlarged

Q11 General Science

Which of the following circuit elements is used to vary the amount of current following through a closed circuit?

- A. Ammeter
- B. Voltmeter
- C. Plug key
- D. Rheostat ✓

Q12 General Science

If the distance-time graph of an object is a straight line parallel to the time axis, what is the object's speed?

- A. Uniform
- B. Zero ✓
- C. Increasing
- D. Non-zero constant

Q13 General Science

In electrolytic refining, the impure metal is used as the:

- A. electrolyte
- B. separator
- C. cathode
- D. anode ✓

Q14 General Science

The random wavering or flickering of objects viewed through a turbulent stream of hot air rising above a fire or radiator is an effect of _____.

- A. Atmospheric refraction on a small scale ✓
- B. Tyndall effect
- C. Heat radiation causing visual distortion
- D. Diffraction of light

Q15 General Science

The SI unit of average speed is:

- A. m/s ✓
- B. m/s²
- C. km/hr
- D. cm/s

Q16 General Science

Two children of the same parents resemble each other but are not exactly alike because _____.

- A. each of them shows variation in their DNA copying mechanisms
- B. they show different combinations of the genetic variation existing in their parents ✓
- C. each of them inherits all genetic characters from one parent only
- D. their parents show very little genetic variation

Q17 General Science

What is the advantage of cross-breeding local and exotic cattle breeds?

- A. Lower adaptability to environment
- B. Denser wool yield
- C. Higher meat and milk yield ✓
- D. Faster reproduction rate

Q18 General Science

If the current in a straight conductor is doubled, the magnetic field at a given distance from it:

- A. Halves
- B. Doubles ✓
- C. Becomes zero
- D. Remains the same

Q19 General Science

How is the change in Gravitational Potential Energy (ΔPE_g) of a system related to the work (W_g) done by the gravitational force?

- A. The two are unrelated
- B. $W_g = -\Delta PE_g$ ✓
- C. $W_g = \Delta PE_g$
- D. $W_g = 0$



Q20 General Science

What is the method of removal of metabolic waste in many unicellular organisms?

- A. Through the use of special organs
- B. Through filtration through kidneys
- C. Through osmosis
- D. Through a simple diffusion process ✓

Q21 General Science

Which statement best describes the Law of Constant Proportion of the compound water?

- A. The total mass of products is always greater than reactants in a reaction.
- B. The properties of compounds are the same as those of elements.
- C. A chemical compound always contains the same elements combined in a fixed ratio by mass. ✓
- D. Elements combine in any ratio to form compounds.

Q22 General Science

Which of the following plants is a weed?

- A. *Vigna unguiculata*
- B. *Cyperus rotundus* ✓
- C. *Oryza sativa*
- D. *Pisum sativum*

Q23 General Science

Copper reacts with moist carbon dioxide in the air and slowly loses its shiny brown surface and gains a _____ colour coating of basic copper carbonate.

- A. green ✓
- B. black
- C. white
- D. reddish brown

Q24 General Science

Which of the following best explains the division of labour seen in multicellular organisms?

- A. All cells perform the same function in an organism
- B. Each body part is made up of a single cell
- C. Different cells have specialized functions ✓
- D. Multicellular organisms have only one type of cell

Q25 General Science

Which contraceptive method is most appropriate for a couple who wishes to avoid both hormonal and surgical methods?

- A. Using barrier methods like condoms ✓
- B. Natural methods (periodic abstinence)
- C. Taking oral pills
- D. Inserting a copper-T



General Science

25 Questions • Answer Key

Q1 General Science

When a drop of ink is added to water and left undisturbed, the ink gradually spreads throughout the water. Which property of matter does this observation best demonstrate?

- A. Fixed positions of particles
- B. Continuous movement of particles ✓
- C. Spaces between particles
- D. Attraction between particles

Q2 General Science

Which statement best defines a combination reaction?

- A. Two or more reactants combine to form a single product. ✓
- B. Two compounds exchange ions to form new compounds.
- C. Two reactants break down into simpler products.
- D. One element displaces another element from its compound.

Q3 General Science

What is a colloidal solution?

- A. Transparent mixture with gases only
- B. Uniform mixture with large particles
- C. Heterogeneous mixture with fine particles ✓
- D. Mixture in which particles fully dissolve and settle

Q4 General Science

The heating effect of electric current is least in _____.

- A. Copper ✓
- B. Nichrome
- C. Iron
- D. Tungsten

Q5 General Science

What is the typical oxide used along with aluminium in a thermite reaction?

- A. Copper oxide
- B. Iron (III) oxide ✓
- C. Zinc oxide
- D. Magnesium oxide

Q6 General Science

Which of the following types of ore is pyrite?

- A. Nitrate
- B. Halide
- C. Oxide
- D. Sulphide ✓

Q7 General Science

The distance between the pole and focus of a concave mirror is 30 cm. A real and inverted image is formed by this mirror on a screen at 40 cm from the pole of this mirror. What will be the object distance?

- A. - 120/7 cm
- B. - 120 cm ✓
- C. + 120/7 cm
- D. + 120 cm

Q8 General Science

In household electricity supply, which of the following statements correctly describes the colour codes of the wires?

- A. The live wire is green, the neutral wire is red, and the earth wire is black
- B. The live wire is blue, the neutral wire is green, and the earth wire is red
- C. The live wire is red, the neutral wire is black, and the earth wire is green ✓
- D. The live wire is black, the neutral wire is green, and the earth wire is blue

Q9 General Science

Which of the following organisms shows the phenomenon of regeneration?

- A. Planaria ✓
- B. House fly
- C. Mosquito
- D. Honey bee



Q10 General Science

If the velocity of a car increases from 20 m/s to 40 m/s in 4 seconds, the acceleration of the car is ____.

A. 5 m/s²



B. 5 m/s

C. 10 m/s²

D. 10 m/s

Q11 General Science

In a longitudinal wave, particle's motion is ____.

A. parallel to the wave direction



B. perpendicular to the wave motion

C. random

D. circular

Q12 General Science

Baking soda releases which gas on heating?

A. CO₂



B. O₂

C. N₂

D. H₂

Q13 General Science

Which of the following is an example of addition reaction?

A. Hydrolysis of acetic acid

B. Dehydration of alcohol

C. Chlorination of methane

D. Hydrogenation of ethene

**Q14 General Science**

A race car starting from rest accelerates uniformly. If the car covers 22.5 m in the 5th second of its motion, what is the total distance covered at the end of 10 seconds?

A. 250 m



B. 450 m

C. 300 m

D. 375 m

Q15 General Science

A flexible support to developing plant parts is provided by ____.

A. Chlorenchyma

B. Phloem

C. Collenchyma



D. Xylem

Q16 General Science

Fill in the blanks with the correct sequence of organs.

Urine is formed in the ____ → passes through the ____ → stored in the ____ → and finally released through the ____.

A. Kidney → Ureter → Urinary bladder → Urethra



B. Urinary bladder → Kidney → Ureter → Urethra

C. Ureter → Kidney → Urethra → Urinary bladder

D. Urethra → Urinary bladder → Ureter → Kidney

Q17 General Science

In which state of matter is the space between particles maximum ?

A. Liquid

B. Solid

C. Gas



D. All have equal space

Q18 General Science

Which of the following conditions must be satisfied for work to be done according to science?

A. Only a force is applied, even if the object does not move.

B. A force must act on an object, and the object must be displaced.



C. The object is at rest, and a force is applied.

D. Only the object moves, even if no force is applied.

Q19 General Science

Imagine a country continues to use CFCs despite the global agreement. What could be the consequences for that country and the world?

A. Environmental harm and global criticism



B. Faster industrial development

C. Increase in rainfall

D. No effect, as other countries have stopped using CFCs



Q20 General Science

What role does the placenta play during the development of the embryo in the human female reproductive system?

- A. It is the location where fertilisation of egg and sperm occurs.
- B. It produces eggs needed for fertilisation.
- C. It facilitates the exchange of nutrients and wastes between mother and embryo. ✓
- D. It unites the two oviducts into the uterus.

Q21 General Science

Which of the following is NOT caused by atmospheric refraction?

- A. Reddish colour of sun at sunrise / sunset ✓
- B. Advanced sunrise and delayed sunset
- C. Twinkling of stars
- D. Sun appearing higher in sky than its actual geometric position

Q22 General Science

Which cells in xylem are primarily responsible for the vertical transport of water and minerals in plants?

- A. Xylem fibres
- B. Tracheids and vessels ✓
- C. Sieve tubes
- D. Companion cells

Q23 General Science

Herbicides protect crops by _____.

- A. Killing fungi
- B. Killing bacteria
- C. Killing insects
- D. Killing weeds ✓

Q24 General Science

What is the most important condition for successful fragmentation reproduction in Spirogyra?

- A. Availability of a fully developed vascular system
- B. The ability of fragments to form seeds
- C. Each fragment possessing the capability to perform basic life functions ✓
- D. Presence of reproductive organs in each fragment

Q25 General Science

An object is thrown vertically upwards and rises to a height of 20 m. What was the velocity with which the object was thrown? (Take $g = 10 \text{ m/s}^2$).

- A. 30 m/s
- B. 10 m/s
- C. 40 m/s
- D. 20 m/s ✓



General Science

25 Questions • Answer Key

Q1 General Science

Which structure in *Rhizopus* is directly involved in the process of reproduction through spore formation?

- A. Hyphae
- B. Mycelium
- C. Rhizoids
- D. Sporangia



Q2 General Science

A sealed syringe containing air is pressed from one end while keeping the other end closed. What is the most likely outcome of this action in terms of the state of air inside the syringe?

- A. The volume of air increases and pressure decreases
- B. The temperature of air inside drops significantly
- C. The volume of air decreases and its pressure increases
- D. The air escapes completely from the syringe



Q3 General Science

A scientist observed a multicellular organism undergoing reproduction. Which of the following methods would the plant NOT be using?

- A. Vegetative Propagation
- B. Budding
- C. Binary Fission
- D. Fragmentation



Q4 General Science

Which property enables carbon to form long chains?

- A. Tetravalency
- B. Catenation
- C. Polymerisation
- D. Isomerism



Q5 General Science

Which of the following symbols is used for the element phosphorus as per the rules for atomic symbols?

- A. P
- B. Ps
- C. Ph
- D. Pr



Q6 General Science

In plants, food made in leaves is transported to other parts by the complex tissue called _____.

- A. Phloem
- B. Xylem
- C. Collenchyma
- D. Sclerenchyma



Q7 General Science

A student shows a concave lens forming a diminished real image on the screen. The mistake is:

- A. Concave lens does not refract light
- B. Concave lens always converges light
- C. Concave lens cannot form a magnified image
- D. Concave lens cannot form a real image



Q8 General Science

Which of the following is NOT an olfactory indicator?

- A. Vanilla
- B. Onion
- C. Clove oil
- D. Litmus



Q9 General Science

The complex tissue that transports food in plants is called _____, and it consists of living cells like sieve tubes and _____.

- A. Xylem, tracheids
- B. Collenchyma, sclerenchyma
- C. Xylem, xylem fibres
- D. Phloem, companion cells



Q10 General Science

Which of the following statements is true about weight and mass?

- A. Neither mass nor weight changes on the Moon
- B. Both mass and weight change on the Moon
- C. Only mass changes on the Moon
- D. Only weight changes on the Moon ✓

Q11 General Science

Which of the following is the correct unit of average speed in SI system?

- A. m/s^2
- B. km/h^2
- C. s/m^2
- D. m/s ✓

Q12 General Science

During a nerve impulse transmission, neurotransmitters are released from one neuron and received by another. Which part of neurons are primarily involved in this chemical communication?

- A. Axon → Myelin sheath of nerve
- B. Cell body → Axon of same neuron
- C. Axon terminal → Dendrite of another neuron ✓
- D. Dendrite → Axon terminal of same neuron

Q13 General Science

A real and inverted image is formed at a distance of 30 cm from a concave mirror when the object is placed 40 cm from the mirror. What will be the magnification produced by the mirror?

- A. $+3/4$
- B. $+4/3$
- C. $-4/3$
- D. $-3/4$ ✓

Q14 General Science

Read the following statements carefully and select the correct option.

Assertion (A): Keeping oily food in airtight containers prevents rancidity.
Reason (R): Airtight containers slow down the oxidation of fats and oils.

- A. Both A and R are true, and R is the correct explanation of A. ✓
- B. A is true, but R is false.
- C. Both A and R are true, and R is not the correct explanation of A.
- D. A is false, but R is true.

Q15 General Science

Which connective tissue is known for supporting internal organs?

- A. Areolar tissue ✓
- B. Tendon
- C. Ligament
- D. Squamous epithelium

Q16 General Science

What is the general name of the reaction between an acid and a base?

- A. Neutralisation ✓
- B. Decomposition
- C. Oxidation
- D. Combustion

Q17 General Science

How does the space between particles change from solid to gas?

- A. The space decreases as matter changes from solid to gas
- B. The space increases as matter changes from solid to gas ✓
- C. Solids and gases always have equal spacing
- D. The space remains unchanged during the change in states of matter



Q18 General Science

A constant force acts on an object of mass 4 kg for a duration of 2 s, increasing its velocity from 2 m/s to 8 m/s. If the same force is applied for a duration of 4 s, then what would be the final velocity of the object?

A. 20 m/s

B. 10 m/s

C. 12 m/s

D. 14 m/s

**Q19 General Science**

A sound wave has a speed of 320 m/s. If the wavelength of the wave is 0.4 m, what is the frequency of this wave?

A. 128 Hz

B. 80 Hz

C. 1280 Hz

D. 800 Hz

**Q20 General Science**

The disease-causing pathogens in plants can be transmitted through_____.

A. Both Soil and Air



B. Soil

C. Air

D. Neither Soil nor Air

Q21 General Science

Based on the reactivity series, which of the following metals is the least reactive?

A. Fe (iron)

B. K (potassium)

C. Au (gold)



D. Ca (calcium)

Q22 General Science

The filament of a light bulb is made up of tungsten, because of its _____.

A. High resistance and low melting point

B. Low resistance and high melting point

C. High resistance and high melting point



D. Low resistance and low melting point

Q23 General Science

In a toaster, the heating wire glows red because _____.

A. It has zero resistance.

B. It has low melting point.

C. It resists the current and gets hot.



D. The current is very high.

Q24 General Science

A boy lifts an object above his head by exerting a force. Which of the following works is negative?

A. Work done by the object

B. Work done by the boy

C. Work done by the applied force

D. Work done by the force of gravity

**Q25 General Science**

During the birth, the ovaries of a girl child contain _____.

A. No eggs

B. Both mature and immature eggs

C. Only mature eggs

D. Only immature eggs



General Science

25 Questions • Answer Key

Q1 General Science

Which type of blood vessel has thick, elastic walls to withstand high pressure?

- A. Vein
- B. Artery
- C. Venule
- D. Capillary



Q2 General Science

Which part of the food-conducting complex tissue in plants is tubular and has perforated walls?

- A. Companion cell
- B. Sieve tube
- C. Phloem parenchyma
- D. Sieve plate



Q3 General Science

What is the advantage of combining DNA from two different individuals in sexually reproducing animals?

- A. It increases genetic variation within the population.
- B. It speeds up the reproduction process.
- C. It reduces the need for specialized reproductive organs.
- D. It eliminates errors in DNA copying.



Q4 General Science

Which of the following is a micronutrient?

- A. Manganese
- B. Phosphorous
- C. Nitrogen
- D. Magnesium



Q5 General Science

Which of the following rays is NOT used to locate the image formed by a spherical mirror?

- A. A ray passing through the center of curvature that reflects back along the same path
- B. A ray passing through the focus that reflects parallel to the principal axis
- C. A ray perpendicular to the principal axis that reflects through the focus
- D. A ray parallel to the principal axis that reflects through the focus



Q6 General Science

Which property distinguishes a homogeneous mixture from a heterogeneous mixture?

- A. Chemical reaction
- B. Uniform composition
- C. High density
- D. Fixed boiling point



Q7 General Science

Which multicellular organism shows fragmentation as a common mode of asexual reproduction?

- A. Spirogyra
- B. Orange
- C. Bryophyllum
- D. Jasmine



Q8 General Science

When brakes are applied to a moving car, the car slows down but the passengers inside tend to move forward. This happens because _____.

- A. the passengers have inertia and continue in their state of motion
- B. the passengers are pulled forward by gravity
- C. the brakes apply a forward force on the passengers
- D. the air inside the car pushes the passengers forward



Q9 General Science

Which of the following is always formed during a neutralization reaction between a strong acid and a strong base?

- A. Salt and water ✓
- B. Salt, water, and carbon dioxide
- C. Only water
- D. Salt and hydrogen gas

Q10 General Science

The SI unit of the universal gravitational constant G is _____.

- A. $\text{N}\cdot\text{m}^2/\text{kg}^2$ ✓
- B. $\text{N}\cdot\text{kg}^2/\text{m}^2$
- C. kg/m^3
- D. N/m^2

Q11 General Science

A sodium chloride crystal contains sodium and chloride ions in a 1:1 ratio. To calculate the formula unit mass of sodium chloride, which process would you use?

- A. Multiply the atomic mass of sodium and the atomic mass of chlorine
- B. Subtract the atomic mass of chlorine from that of sodium
- C. Add the atomic mass of sodium and the atomic mass of chlorine ✓
- D. Divide the atomic mass of sodium by that of chlorine

Q12 General Science

For a body moving with uniform velocity, the acceleration is:

- A. constant
- B. increasing
- C. decreasing
- D. zero ✓

Q13 General Science

Animals with high energy needs and constant body temperature, like birds and mammals, have _____ chambered hearts.

- A. One
- B. Three
- C. Two
- D. Four ✓

Q14 General Science

Which of the following statements about a proton is correct ?

- A. A proton is negatively charged and has very small mass
- B. A proton is neutral in charge and has mass equal to an electron
- C. A proton is positively charged and mass is $1/2000$ of a hydrogen atom
- D. A proton is positively charged and its mass is taken as one unit ✓

Q15 General Science

A wire of length 'L', area of cross-section 'A' and resistivity 'ρ' has a resistance 'R'. What will be the new resistance of this wire if its area of cross-section is tripled? (Keep all the other parameters the same)

- A. $R/3$ ✓
- B. R
- C. $R/9$
- D. $3R$

Q16 General Science

Megaphone, horn and stethoscope are the devices used to _____.

- A. Control amplitude of sound
- B. Change pitch
- C. Produce, transmit, and amplify sound ✓
- D. Block sound

Q17 General Science

Which condition is essential for a dispersed seed to successfully undergo germination and develop into a seedling?

- A. Exposure to sunlight only
- B. Presence of appropriate environmental conditions ✓
- C. Physical separation from the parent flower
- D. Complete decay of the fruit enclosing the seed only.



Q18 General Science

For a resistor with constant resistance, the magnitude of heat produced is directly proportional to which of the following?

- A. Length of the resistor
- B. Current flowing through the resistor
- C. Density of the material
- D. Square of the current flowing through the resistor** ✓

Q19 General Science

Which of the following molecules is split apart by higher energy ultraviolet for formation of ozone?

- A. Sodium
- B. Zinc
- C. Oxygen** ✓
- D. Iron

Q20 General Science

When substituting numerical values for the distances (u, v, f) into the Mirror Formula to solve problems, which prerequisite must be strictly followed?

- A. All values must be converted to metres
- B. The focal length (f) must always be taken as positive
- C. All measurements must be taken from the centre of curvature
- D. The New Cartesian Sign Convention must be used** ✓

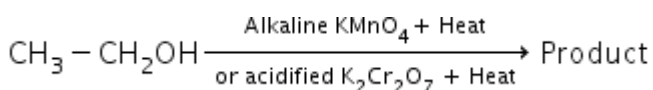
Q24 General Science

A porter lifts a luggage of mass 25 kg from the ground to a height of 2.0 m. What is the work done by him on the luggage? (Take $g = 10 \text{ m/s}^2$)

- A. 500 J** ✓
- B. 50 J
- C. 250 J
- D. 100 J

Q25 General Science

Identify the product in the reaction given below.



- A. Propanal
- B. Ethanoic acid** ✓
- C. Ethanal
- D. Propanone

Q21 General Science

What is the main purpose of refining a metal after it has been extracted?

- A. To increase the melting point of the metal
- B. To convert the metal into an alloy
- C. To reduce the reactivity of the metal
- D. To remove impurities from the extracted metal** ✓

Q22 General Science

Which of the following statements is true about a base in an aqueous solution?

- A. They turn blue litmus red.
- B. They have a sour taste.
- C. They react with metals to produce hydrogen gas.
- D. They produce OH^- ions in water.** ✓

Q23 General Science

Which of the following is the SI unit of weight?

- A. Newton** ✓
- B. Joule
- C. Kilogram
- D. Pascal



General Science

25 Questions • Answer Key

Q1 General Science

A child is born with one X chromosome from the mother and one Y chromosome from the father. Which statement accurately describes the consequence of this chromosomal combination?

- A. The child will develop as a female because X chromosome is always dominant over Y chromosome.
- B. The child will develop as a male due to the presence of the Y chromosome. ✓
- C. The child will not develop male characteristics without two Y chromosomes.
- D. The child's sex is determined by the mother, as she provides the X chromosome.

Q2 General Science

Select the statement regarding the cytoplasm of a cell that is INCORRECT.

- A. In a plant cell, cytoplasm is found between cell wall and plasma membrane. ✓
- B. Cytoplasm contains many cell organelles.
- C. Cytoplasm is the fluid-filled region inside plasma membrane.
- D. Cytoplasm is present in both eukaryotic and prokaryotic cells.

Q3 General Science

According to Bohr's model of the atom, in which orbits can electrons revolve around the nucleus?

- A. Elliptical orbits of variable energy
- B. Certain fixed circular paths called discrete orbits ✓
- C. Spiral paths continuously losing energy
- D. Any arbitrary circular path

Q4 General Science

Which change in a flower signals that fertilisation has occurred?

- A. Development of a pollen tube
- B. Petals become larger and brighter
- C. Formation of new stamens
- D. Ovule matures into seed and ovary into fruit ✓

Q5 General Science

Please select the correct option for the assertion-reason statement.

Assertion: The ceiling conference halls are made curved.
Reason: Curved ceilings help the sound to spread evenly in the hall.

- A. Both assertion and reason are true and reason is the correct explanation of assertion. ✓
- B. Assertion is false and reason is true.
- C. Assertion is true but reason is false.
- D. Both assertion and reason are false.

Q6 General Science

What is the role of peristaltic movements in the human digestive system?

- A. To absorb nutrients into the blood
- B. To produce digestive enzymes
- C. To digest proteins in the stomach
- D. To push food forward along the digestive tract ✓

Q7 General Science

The magnetic field due to a solenoid carrying 'I' current is 'B'. What will be the magnetic field due to this solenoid, when the current flowing through the solenoid is halved? (Keeping all the other parameters the same)

- A. 2B
- B. B
- C. B/2 ✓
- D. B/4

Q8 General Science

What do 'check dams' refer to?

- A. Dams built only for industrial water supply
- B. Small huts near rivers
- C. Earthen or concrete structures across flooded gullies ✓
- D. Crescent-shaped hills for farming



Q9 General Science

A ray passing through which of the following parts of a lens emerges undeviated?

A. Between focus and centre

B. Optical centre



C. Principal focus

D. Centre of curvature

Q10 General Science

What does a blue, non-luminous flame indicate when a hydrocarbon is burnt?

A. Lack of oxygen

B. Incomplete combustion and soot formation

C. Complete combustion with high temperature



D. Presence of unburnt carbon

Q11 General Science

Which of the following statements about work is FALSE?

A. Work can be positive, negative, or zero.

B. Work is energy in transit.

C. Work has the same units as energy.

D. Work is a path-independent quantity for all forces.

**Q12 General Science**

Two planets have the same radius. Planet A has twice the mass of Planet B. What is the ratio of acceleration due to gravity on Planet A to that on Planet B?

A. 2 : 1



B. 4 : 1

C. 1 : 2

D. 1 : 1

Q13 General Science

Which of the following statements correctly describes the relationship between mass and inertia?

A. Mass is inversely proportional to inertia

B. Mass is independent of inertia

C. Mass is directly proportional to the square of inertia

D. Mass is directly proportional to inertia

**Q14 General Science**

Which of the following statements is/are correct regarding 'changes of state of matter'?

A) A change of state of matter is a physical change.

B) A change of state of matter is an irreversible change.

A. Only A



B. Both A and B

C. Neither A nor B

D. Only B

Q15 General Science

What does it mean when magnetic field lines are drawn closer together in a diagram?

A. The magnetic field is stronger in that region



B. The magnetic field is weaker in that area

C. The direction of the magnetic field has changed

D. There is no magnetic field present

Q16 General Science

Unsaturated hydrocarbons usually produce:

A. no flame at all

B. white flame with sparkles

C. clean blue flames

D. yellow flame with black smoke

**Q17 General Science**

Refer to the two statements given below and select the correct option.

Statement A: Bleaching powder is produced by the action of chlorine on dry slaked lime.

Statement B: Its chemical formula is CaOCl_2 .

A. Statement A is correct but B is incorrect.

B. Statement A is incorrect but B is correct.

C. Both statements A and B are correct.



D. Both statements A and B are incorrect.

Q18 General Science

Which property of carbon allows it to form a large number of compounds by bonding with itself and other elements?

A. Catenation



B. Combustion

C. Tetravalency

D. Isomerism



Q19 General Science

A car's velocity-time graph is a straight line parallel to the x-axis at 40 km/h. What will the area enclosed between the graph and the time axis from $t = 0$ to $t = 3$ hours represent?

- A. Acceleration of the car
- B. Average speed of the car
- C. Final velocity of the car
- D. Displacement of the car in 3 hours

**Q20 General Science**

Which process best explains how water droplets form on the outer surface of a cold glass during a hot day?

- A. Evaporation
- B. Freezing
- C. Sublimation
- D. Condensation

**Q21 General Science**

Which metal is placed highest in the reactivity series?

- A. Gold
- B. Silver
- C. Copper
- D. Sodium

**Q22 General Science**

Which of the following is an advantage of sexual reproduction in plants?

- A. It occurs only in root systems.
- B. It prevents fertilisation from occurring.
- C. It always requires two plants of different species.
- D. It helps in producing seeds with genetic diversity.

**Q23 General Science**

The Chipko Movement that took place in the Garhwal Himalayas in 1974 is an example of:

- A. mining-based forest exploitation
- B. community-led protection of trees
- C. government-led reforestation
- D. urban infrastructure development

**Q24 General Science**

The principal focus of a concave mirror is the point where:

- A. Rays parallel to the principal axis appear to diverge after reflection
- B. The mirror surface intersects the principal axis
- C. Rays parallel to the principal axis converge after reflection
- D. Rays passing through the center of curvature converge

**Q25 General Science**

When a person touches a hot object, there is a delay in the muscle response. Which part of the nervous tissue is directly responsible for carrying the nerve impulse to the muscle to bring about a quick movement?

- A. Connective tissue
- B. Dendrite
- C. Nucleus
- D. Axon



General Science

25 Questions • Answer Key

Q1 General Science

Which of the following cell structures helps amoeba to acquire its food material?

- A. Nuclear membrane
- B. Cilia
- C. Flagella
- D. Plasma membrane ✓

Q2 General Science

When iron filings are mixed with sulfur powder and the mixture is heated, a black substance called iron sulfide is formed. Which statement best describes the changes involved?

- A. Iron dissolves in sulfur forming a solution.
- B. A physical change occurs as the substances are only mixed.
- C. A chemical change occurs as a new substance is formed. ✓
- D. A reversible physical change takes place.

Q3 General Science

If the wavelength of light is 600 nm and its speed is 3×10^8 m/s, the frequency is approximately _____.

- A. 3×10^8 Hz
- B. 2×10^{12} Hz
- C. 6×10^{10} Hz
- D. 5×10^{14} Hz ✓

Q4 General Science

Which trophic level represents maximum concentration of pesticides by biological magnification?

- A. Tertiary Consumer ✓
- B. Primary Consumer
- C. Producer
- D. Secondary Consumer

Q5 General Science

Which of the following changes can be regarded as part of sexual maturation in human males?

- A. Cracking of voice ✓
- B. Increase in weight
- C. Increase in height
- D. Deposition of fat in hips

Q6 General Science

If a conductor has a potential difference of 1 volt across its ends and a current of 1 ampere flows through it, what is its resistance?

- A. 10 ohm
- B. 2 ohm
- C. 1 ohm ✓
- D. 0.5 ohm

Q7 General Science

Which of the following devices works on Archimedes' principle?

- A. Sphygmomanometer
- B. Hydrometer ✓
- C. Altimeter
- D. Aneroid barometer

Q8 General Science

If several rays of light parallel to the principal axis are falling on a convex lens, which of the following statements is correct for the refracted ray?

- A. They pass without any deviation.
- B. They converge at a point on the opposite side of the lens. ✓
- C. They diverge as if coming from the principal focus.
- D. They meet at the infinity.



Q9 General Science

Galvanisation protects iron from rusting by coating it with a thin layer of:

- A. Zinc metal only ✓
- B. Silver metal only
- C. Nickel metal only
- D. Copper metal only

Q10 General Science

Fertilization in females usually occurs in which region of the reproductive system?

- A. Fallopian Tube ✓
- B. Vagina
- C. Uterus
- D. Ovary

Q11 General Science

An object is placed at 80 cm on the left of a convex lens of focal length 40 cm. Where should a screen be placed to right of the lens so that the image formed is real, inverted and same sized?

- A. The screen should be placed 80 cm from the lens. ✓
- B. The screen should be placed anywhere between 20 cm and 40 cm from the lens.
- C. The screen should be placed anywhere between 40 cm and 80 cm from the lens.
- D. The screen should be placed at 40 cm from the lens.

Q12 General Science

Substitution reaction involves:

- A. Addition of atoms to double bonded molecules
- B. Removal of atoms to form simpler molecules
- C. Replacement of a carbon atom with hydrogen
- D. One atom or group of atoms being replaced by another ✓

Q13 General Science

Which of the following fish production methods are done in the region of Kashmir?

- A. Pearl Culture
- B. Aqua Culture ✓
- C. Brackish Water Fisheries
- D. Marine Fisheries

Q14 General Science

Match the following plants with their correct modes of seed dispersal.

Column A	Column B
1. Dandelions	a. Water
2. Lotus	b. Explosion
3. Mango	c. Wind
4. Castor	d. Animal

- A. 1 – c, 2 – d, 3 – a, 4 – b
- B. 1 – a, 2 – d, 3 – b, 4 – c
- C. 1 – b, 2 – a, 3 – d, 4 – c
- D. 1 – c, 2 – a, 3 – d, 4 – b ✓

Q15 General Science

The molecular mass of a compound is 63 u. If it contains one hydrogen atom and three oxygen atoms, the atomic mass of the remaining element is :

- A. 14 u ✓
- B. 32 u
- C. 16 u
- D. 12 u

Q16 General Science

Which of the following represents a similarity between chloroplast and Mitochondria?

- A. Both possess their own DNA and 70S Ribosome. ✓
- B. Both perform photosynthesis.
- C. Both perform respiration.
- D. Both have chlorophyll.

Q17 General Science

Why does the blue colour of copper sulphate solution fade when an iron nail is dipped in it?

- A. Copper sulphate is converted into iron sulphate ✓
- B. Copper sulphate decomposes
- C. Iron sulphate is colourless
- D. Copper dissolves in water



Q18 General Science

Under what spatial condition is the magnitude of the force acting on a current-carrying conductor placed in a uniform magnetic field observed to be the highest?

- A. When the current is varied instantaneously.
- B. When the current and field are perpendicular to each other.** ✓
- C. When the current flows towards the south pole of the magnet.
- D. When the current and field are parallel.

Q19 General Science

The kinetic energy of an object of mass m moving with a velocity v is 25 J. What will be its kinetic energy when its velocity is increased three times ($3v$)?

- A. 75 J
- B. 150 J
- C. 225 J** ✓
- D. 125 J

Q20 General Science

When a person stands stationary on the ground, the force of gravity exerted by the Earth on the person (Action) and the normal force exerted by the ground on the person (Reaction) are equal and opposite. Is this an action-reaction pair, according to Newton's Third Law?

- A. Yes, because they balance each other, preventing motion.
- B. No, because the two forces act on the same object.** ✓
- C. No, because the two forces act on different objects.
- D. Yes, because the two forces are equal and opposite in magnitude.

Q21 General Science

Which of the following acts as an olfactory indicator in acid-base reactions?

- A. Methyl orange produces odour in base
- B. Turmeric turns blue in bases
- C. Onion extract changes smell in bases** ✓
- D. Phenolphthalein turns pink in acids

Q22 General Science

What is a necessary property of the electrolyte used during the refining of metals by electrolysis?

- A. It must be composed of both water and a layer of neutral oil
- B. It must remain completely non-reactive throughout the procedure
- C. It must efficiently conduct heat during the electrochemical process
- D. It must be an aqueous or molten solution of a suitable metal salt** ✓

Q23 General Science

Which cell organelles in a leaf contain chlorophyll necessary for photosynthesis?

- A. Vacuole
- B. Chloroplasts** ✓
- C. Mitochondria
- D. Nucleus

Q24 General Science

In a v - t graph for uniform acceleration, which of the following is NOT correct?

- A. The area under the v - t graph gives displacement.
- B. The slope of the v - t graph is constant.
- C. The v - t graph is always curved.** ✓
- D. Positive slope indicates acceleration.

Q25 General Science

Which of the following factors primarily determines the size of an atom?

- A. Number of protons
- B. Number of neutrons
- C. Number of electrons** ✓
- D. Mass of the nucleus

