



RRB JE 2025 CBT-1

Junior Engineer, DMS, CMA · CEN 05/2025 · CBT-1 · General Science · Question Paper

Kannada

All 7 Shifts (Sets) · General Science Section · Official Answer Key

About this Compilation

This booklet contains all **7 shift papers** of the **RRB JE 2025 CBT-1** examination in **Kannada** (General Science section only), with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

Sections. The JE CBT-1 paper is not divided into sections and the saved paper carries no section labels. In this book the questions of every shift are grouped by subject (Mathematics, General Intelligence and Reasoning, General Awareness, General Science), assigned from our topic tags, so the section counts may differ slightly from the notified pattern.

160 of these 196 questions are shown in English. RRB did not release them in Kannada to any candidate whose response sheet we could reach, so the official English version is printed instead and marked with an **ENGLISH** chip. Nothing here is machine translated.

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions appear section by section in the order of the paper, numbered 1 onward.
- Diagram and wide-table questions appear at full width at the end of their section.
- The correct answer is highlighted in green with a tick.

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General Science

30 Questions • Answer Key

Q1 General Science ENGLISH

A cricket ball of mass 0.15 kg is thrown horizontally at 30 m/s from the top of a building. What is the ball's kinetic energy as it leaves the hand?

- A. 90 J
- B. 67.5 J
- C. 45.5 J
- D. 135 J



Q2 General Science ENGLISH

Why are bulbs filled with nitrogen and argon gases instead of air?

- A. To reduce electricity consumption
- B. To increase brightness
- C. To make the bulb heavier
- D. To prolong the life of the filament



Q3 General Science ENGLISH

Sodium hydroxide (NaOH) contains _____ as its anion.

- A. Na⁺
- B. NO₃⁻
- C. H⁺
- D. OH⁻



Q4 General Science ENGLISH

If a convex mirror forms a point-sized image at its focus, where is the object located?

- A. Between P and F
- B. At infinity
- C. Between F and the pole
- D. At the pole



Q5 General Science ENGLISH

How does the magnetic field strength at the center of a circular loop change if the current through the loop is doubled?

- A. It becomes half as large
- B. It becomes four times as large
- C. It becomes twice as large
- D. It remains unchanged



Q6 General Science ENGLISH

Atomic masses of elements are compared with a standard reference. Carbon-12 was chosen as the standard for the atomic mass unit mainly because:

- A. Carbon is present in very large amounts in nature
- B. Carbon-12 gives atomic masses close to whole numbers
- C. Carbon shows very little chemical reactivity with elements
- D. Carbon is able to form a large number of compounds



Q7 General Science ENGLISH

When two aqueous solutions react inside a sealed flask and form products, what happens to the total mass of the system?

- A. It decreases due to precipitation
- B. It remains unchanged throughout
- C. It fluctuates during reaction
- D. It increases due to gas formation



Q8 General Science ENGLISH

Ribosomes are attached to the surface of the rough endoplasmic reticulum. What is the primary function of the rough endoplasmic reticulum?

- A. Lipid synthesis
- B. Energy production and cellular respiration
- C. Protein synthesis and transport
- D. DNA replication and transcription



Q9 General Science **ENGLISH**

Which cell organelle is responsible for the manufacture of lipids in the cell?

A. Rough Endoplasmic Reticulum

B. Golgi Apparatus

C. Smooth Endoplasmic Reticulum



D. Mitochondria

Q10 General Science **ENGLISH**

Which statement correctly describes the atomic number of an element?

A. Total number of nucleons in the atom

B. Total mass of all subatomic particles

C. Number of protons present in the nucleus



D. Number of neutrons present in the nucleus

Q11 General Science **ENGLISH**

Which of the following metals is NOT refined by electrolytic refining?

A. sodium



B. copper

C. zinc

D. tin

Q12 General Science **ENGLISH**

When a man pushes a wall but the wall does not move, what is the work done by the man on the wall?

A. Maximum work is done as the man uses full effort.

B. Zero work is done as there is no displacement of the wall.



C. Negative work is done as the wall resists the push.

D. Positive work is done as force is applied.

Q13 General Science **ENGLISH**

Coal is primarily formed from:

A. Lava flows from volcanoes

B. Mineral deposits in the Earth

C. Layers of dead plants compressed over millions of years



D. Remains of animals preserved in rocks

Q14 General Science **ENGLISH**

When methane (CH_4) burns completely in the presence of sufficient oxygen, which products are formed?

A. Carbon monoxide and water

B. Carbon dioxide and carbon

C. Carbon and hydrogen

D. Carbon dioxide and water



Q15 General Science **ENGLISH**

Sonora-64 and Lerma Rojo are high-yielding varieties (HYVs) of which crop introduced during the Green Revolution in India?

A. Rice

B. Wheat



C. Maize

D. Barley

Q16 General Science **ENGLISH**

Why is using compost or vermi-compost preferable to excessive use of fertilizers for increasing soil fertility?

A. It replaces the need for irrigation and weeding.

B. It supplies only micro-nutrients and avoids macronutrients.

C. It recycles biological waste and avoids environmental harm.



D. It eliminates bacterial and viral plant diseases.

Q17 General Science **ENGLISH**

Which structural feature primarily enables upward movement of water against gravity in plants?

A. Large intercellular spaces in spongy mesophyll

B. Thin-walled sieve tubes with companion cells

C. Actively dividing meristematic tissues

D. Lignified xylem vessels forming continuous columns



Q18 General Science **ENGLISH**

What is the function of the iris in the human eye?

- A. Forms the image on the retina
- B. Refracts incoming light rays
- C. Controls the size of the pupil ✓
- D. Transmits signals to the brain

Q19 General Science **ENGLISH**

Refer to the two statements given below and choose the CORRECT option.

Statement A: Selective reabsorption in nephrons helps maintain water and salt balance in the body.

Statement B: Selective reabsorption prevents nitrogenous wastes from entering the filtrate.

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

Q20 General Science **ENGLISH**

Which of the following statements about washing soda is CORRECT?

- A. Washing soda is chemically sodium carbonate decahydrate ($\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$) ✓
- B. It is obtained by heating sodium bicarbonate to 100°C
- C. Washing soda is acidic in nature
- D. It does not remove permanent hardness of water

Q21 General Science **ENGLISH**

Which statement best explains why unsaturated carbon compounds are generally more reactive than saturated carbon compounds?

- A. Unsaturated compounds form only straight carbon chains
- B. Unsaturated compounds contain only single bonds between carbon atoms
- C. Unsaturated compounds have fewer hydrogen atoms attached to carbon
- D. Unsaturated compounds have double or triple bonds between carbon atoms ✓

Q22 General Science **ENGLISH**

When a gun is fired, it recoils backward as the bullet moves forward. How does this demonstrate Newton's third law of motion?

- A. The bullet moves forward only because the gun has stored energy.

- B. The gun pushes the bullet forward, and the bullet pushes the gun backward with an equal and opposite force. ✓

- C. The gun moves backward because it is heavier than the bullet.

- D. The gun recoils because the bullet moves faster than the gun.

Q23 General Science **ENGLISH**

Systolic pressure is measured when the heart

- A. Fills with blood

- B. Contracts ✓

- C. Stops beating

- D. Relaxes

Q24 General Science **ENGLISH**

Which of the following everyday examples represents a homogeneous mixture?

- A. Salt completely dissolved in water ✓

- B. Chalk powder stirred in water

- C. Sand mixed uniformly with iron filings

- D. Oil mixed thoroughly with water

Q25 General Science **ENGLISH**

If a material has an absolute refractive index of 1.7, what does this imply about the speed of light in that material compared to vacuum?

- A. Light travels 1.7 times faster in the material than in vacuum.

- B. Light travels 1.7 times slower in the material than in vacuum. ✓

- C. The speed difference cannot be determined from this value.

- D. Light travels at the same speed in both.



Q26 General Science **ENGLISH**

Which bee variety is commonly known as the Indian bee and is used for commercial honey production?

- A. *Apis mellifera*
- B. *Apis dorsata*
- C. *Apis cerana indica* ✓
- D. *Apis florae*

Q27 General Science **ENGLISH**

Which enzyme initiates carbohydrate digestion in the human mouth?

- A. Trypsin released by pancreas
- B. Lipase secreted by liver
- C. Pepsin secreted by gastric glands
- D. Salivary amylase present in saliva ✓

Q28 General Science **ENGLISH**

A physicist uses a convex lens to focus sunlight onto a piece of paper and notices the smallest, brightest spot forms at a certain distance from the lens. Which property of the lens does this experiment help to determine?

- A. The experiment helps to determine the focal length of the lens. ✓
- B. The experiment helps to determine the diameter of the lens.
- C. The experiment helps to determine the principal axis of the lens.
- D. The experiment helps to determine the optical center of the lens.

Q29 General Science **ENGLISH**

Why are cross-breeding programmes between indigenous and exotic poultry breeds undertaken?

- A. To create hybrids showing similarity with their ancestors
- B. To create hybrids with less attractive features
- C. To increase only the egg size
- D. To develop new varieties with desirable traits ✓

Q30 General Science **ENGLISH**

If an ammeter reading increases when a thicker wire replaces a thinner one of the same material and length, what is the most likely reason?

- A. The wire's resistivity increased
- B. The wire's length is shorter
- C. The resistance of the thicker wire is lower, allowing more current ✓
- D. The voltage across the wire decreased



General Science

28 Questions • Answer Key

Q1 General Science ENGLISH

In which of the following organisms are chromoplasts present?

- A. Hydra
- B. Star fish
- C. Rose
- D. Amoeba



Q2 General Science ENGLISH

Which process is responsible for the removal of waste byproducts from the body in living organisms?

- A. Nutrition
- B. Transportation
- C. Excretion
- D. Respiration



Q3 General Science ENGLISH

Why is it important to dry agricultural produce first in sunlight and then in shade before storage?

- A. To reduce moisture content and prevent growth of pests and fungi.
- B. To improve the color and taste of the produce.
- C. To make the grains easier to pack and prevent growth of weeds.
- D. To increase the size and brightness of the grains.



Q4 General Science ENGLISH

Which substance has a molecular mass of 44 u?

- A. Carbon monoxide
- B. Ammonia
- C. Methane
- D. Carbon dioxide



Q5 General Science ENGLISH

What is the mass by mass percentage of salt in a solution prepared by dissolving 10 g of salt in 90 g of water?

- A. 90%
- B. 1%
- C. 10%
- D. 100%



Q6 General Science ENGLISH

An object of mass 3 kg initially at rest is subjected to a constant force of 9 N for 2 seconds. What will be its final velocity?

- A. 18 m/s
- B. 6 m/s
- C. 3 m/s
- D. 9 m/s



Q7 General Science ENGLISH

Which of the following arrangements produces a nearly uniform magnetic field in the central region of a circular current-carrying system under steady conditions?

- A. Arranging loops in random orientations
- B. Allowing current to vary with time in a single loop
- C. Using multiple closely wound turns of identical radius with constant current
- D. Using loops of varying radii



Q8 General Science ENGLISH

Which method helps prevent rancidity?

- A. Exposing food to sunlight
- B. Storing food in airtight containers
- C. Adding excess water
- D. Heating food continuously



Q9 General Science **ENGLISH**

Refer to the two statements given below and choose the CORRECT option.

Statement A: Mixed cropping helps reduce the risk of total crop failure under adverse environmental conditions.

Statement B: In mixed cropping, different crops are grown in a definite row arrangement to minimise competition.

- A. Both statements A and B are incorrect.
- B. Both statements A and B are correct.
- C. Statement A is incorrect but B is correct.
- D. Statement A is correct but B is incorrect.**

Q10 General Science **ENGLISH**

Which of the following statements about Plaster of Paris (POP) is CORRECT?

- A. POP is $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ and sets slowly without water
- B. POP is $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ and sets quickly on mixing with water
- C. POP is $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ and hardens by reacting with water**
- D. POP is $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ and is mainly used as a fertilizer

Q11 General Science **ENGLISH**

A person with both myopia and hypermetropia is most likely to use which type of lens?

- A. Concave lens
- B. Convex lens
- C. Bi-focal lens**
- D. Cylindrical lens

Q12 General Science **ENGLISH**

A scientist is designing an artificial multi-cellular organism. What must they include to ensure all cells receive nutrients and remove wastes effectively?

- A. Simple diffusion through the entire surface
- B. A transportation system for food, oxygen, and waste**
- C. Only specialised tissues for nutrition
- D. Direct contact of every cell with the environment

Q13 General Science **ENGLISH**

Bleaching powder is commonly used:

- A. As a fuel
- B. To disinfect water**
- C. To make soap
- D. As a sweetener

Q14 General Science **ENGLISH**

Which calculation correctly gives the molecular mass of nitric acid (HNO_3)?

- A. $1 + 14 + 3$
- B. $1 + 14 + 16$
- C. $2 + 14 + 48$
- D. $1 + 14 + 48$**

Q15 General Science **ENGLISH**

A student drags a suitcase on a flat airport floor. If the force applied and the distance moved both double, how does the work done change?

- A. Work done becomes four times greater.**
- B. Work done halves.
- C. Work done doubles.
- D. Work done remains unchanged.

Q16 General Science **ENGLISH**

A farming community wants to maximize crop yield despite limited increase in cultivable land. Which set of practices should they prioritize to achieve this goal?

- A. Farming without introducing modern technology or high-yielding varieties.
- B. Solely expanding the use of traditional farming methods.
- C. Crop variety improvement and crop production improvement only.
- D. Crop variety improvement, crop production improvement, and crop protection management.**



Q17 General Science **ENGLISH**

If a constant force acts on two objects of different masses, which statement best describes their acceleration according to the second law of motion?

- A. The object with greater mass will have greater acceleration.
- B. The object with smaller mass will have greater acceleration. ✓
- C. Acceleration does not depend on mass.
- D. Both objects will have the same acceleration.

Q18 General Science **ENGLISH**

Which observation best supports the statement that humans have double circulation of blood?

- A. Blood flows only once through the heart in one complete cycle
- B. Oxygenated and deoxygenated blood mix in the heart
- C. Blood passes through the heart twice in one complete circulation ✓
- D. Right side of the heart pumps oxygenated blood

Q19 General Science **ENGLISH**

When an object is placed at infinity in front of a convex mirror, what is the nature of the image formed?

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

Q20 General Science **ENGLISH**

Which statement correctly describes an ion?

- A. A charged atom or group of atoms ✓
- B. A compound formed by covalent bonds
- C. A neutral atom formed by chemical bonding
- D. A molecule containing similar atoms only

Q21 General Science **ENGLISH**

If an atom loses two electrons, which of the following changes will occur?

- A. The atomic number will increase by 2.
- B. The neutron number will decrease by 2.
- C. The atomic number will decrease by 2.
- D. The atom will become a cation with +2 charge. ✓

Q22 General Science **ENGLISH**

In graphite, a carbon atom is attached with:

- A. Four other carbon atoms
- B. Two other carbon atoms
- C. One other carbon atom
- D. Three other carbon atoms ✓

Q23 General Science **ENGLISH**

A student claims that the force exerted by the Earth on the Moon is much stronger than the force exerted by the Moon on the Earth. Based on Newton's third law and the Universal Law of Gravitation, is this claim correct?

- A. No, both forces are equal in magnitude but opposite in direction ✓
- B. Yes, because Earth is more massive, it exerts more force
- C. No, Earth exerts a much smaller force on the Moon
- D. No, the Moon exerts a stronger force because it is closer to Earth

Q24 General Science **ENGLISH**

In the context of uniform circular motion, which of the following examples from everyday life best illustrates this concept?

- A. A car moving with changing speed along a circular track
- B. A pendulum bob swinging to and fro
- C. A satellite revolving around the Earth at a fixed speed in a circular orbit ✓
- D. A person walking randomly in a park



Q25 General Science **ENGLISH**

Equal pieces of zinc and copper are added separately to dilute sulphuric acid. Which observation is CORRECT?

- A. Neither metal evolves hydrogen gas
- B. Only zinc evolves hydrogen gas ✓
- C. Both metals evolve hydrogen gas
- D. Only copper evolves hydrogen gas

Q26 General Science **ENGLISH**

Bee-keeping is suitable as an additional income because it:

- A. Requires low investment ✓
- B. Needs large land area
- C. Depends on irrigation
- D. Uses chemical fertilisers

Q27 General Science **ENGLISH**

Animal tissues differ from plant tissues because animal tissues:

- A. Show unlimited growth
- B. Lack specialized functions
- C. Possess rigid cell walls
- D. Are mostly living and flexible ✓

Q28 General Science **ENGLISH**

A solar cooker uses a mirror to concentrate sunlight onto a vessel. Which type of mirror is used and what property makes it suitable?

- A. A concave mirror because it focuses parallel sunlight to a single point ✓
- B. A plane mirror because it reflects light uniformly
- C. A convex mirror because it spreads light over a large area
- D. A convex mirror because it provides a wide field of view



General Science

28 Questions • Answer Key

Q1 General Science

ಒಂದು ಚೆಂಡನ್ನು ಮೇಜಿನ ಅಂಚಿನಲ್ಲಿ ಇರಿಸಿ ಅದನ್ನು ಹಾಗೆಯೇ ಬಿಡಲಾಗುತ್ತದೆ. ಚೆಂಡು ತನ್ನ ಸ್ಥಾನದಿಂದಾಗಿ ಮುಖ್ಯವಾಗಿ ಯಾವ ರೀತಿಯ ಶಕ್ತಿಯನ್ನು ಹೊಂದಿರುತ್ತದೆ ಮತ್ತು ಅದನ್ನು ಮೇಜಿನಿಂದ ತಳ್ಳಿದರೆ ಏನಾಗಬಹುದು?

- A. ಚೆಂಡು ತನ್ನ ಆಕಾರದಿಂದಾಗಿ ಸ್ಥಿತಿಸ್ಥಾಪಕ ವಿಭವ ಶಕ್ತಿಯನ್ನು ಹೊಂದಿರುತ್ತದೆ
- B. ಚೆಂಡು ರಾಸಾಯನಿಕ ಶಕ್ತಿಯನ್ನು ಹೊಂದಿರುತ್ತದೆ ಮತ್ತು ಅದು ಬಿದ್ದಾಗ ರಾಸಾಯನಿಕ ಶಕ್ತಿಯನ್ನು ಬಿಡುಗಡೆ ಮಾಡುತ್ತದೆ
- C. ಚೆಂಡು ವಿಭವ ಶಕ್ತಿಯನ್ನು ಹೊಂದಿದ್ದು, ಬೀಳುತ್ತಿದ್ದಂತೆ ಅದು ಚಲನ ಶಕ್ತಿಯನ್ನಾಗಿ ಪರಿವರ್ತನೆಯಾಗುತ್ತದೆ ✓
- D. ಚೆಂಡು ಚಲನ ಶಕ್ತಿಯನ್ನು ಹೊಂದಿರುತ್ತದೆ ಮತ್ತು ಅದರ ಮೇಲೆ ಬಲವು ಕಾರ್ಯನಿರ್ವಹಿಸದ ಹೊರತು ಅದು ನಿಶ್ಚಲವಾಗಿರುತ್ತದೆ

Q2 General Science

ಒಬ್ಬ ವಿಜ್ಞಾನಿಯು ಪ್ರಸರಣವು ತರಂಗಾಂತರವನ್ನು ಅವಲಂಬಿಸಿರುತ್ತದೆ ಎಂಬುದರ ಪ್ರಾತ್ಯಕ್ಷಿಕೆಯನ್ನು ಪ್ರದರ್ಶಿಸಲು ಬಯಸುತ್ತಾಳೆ. ಆಕೆ ಒಂದು ಪಟ್ಟಕದ ಮೂಲಕ ಏಕವರ್ಣದ ಕೆಂಪು ಬೆಳಕನ್ನು ಬಿಡುತ್ತಾಳೆ. ಈಗ ಅವರು ಯಾವ ವಿದ್ಯಮಾನವನ್ನು ಗಮನಿಸುತ್ತಾರೆ ಮತ್ತು ಆ ವಿದ್ಯಮಾನವು ಏಕೆ ಉಂಟಾಗುತ್ತದೆ?

- A. ಹಲವು ಕೆಂಪು ಕಿರಣಗಳು, ಪ್ರತಿಯೊಂದೂ ಬೇರೆಬೇರೆ ಕೋನಗಳಲ್ಲಿ ಹೊರಬರುತ್ತವೆ
- B. ಒಂದೇ ತರಂಗಾಂತರ ಇರುವುದರಿಂದ ಯಾವುದೇ ರೋಹಿತವು ರೂಪುಗೊಳ್ಳುವುದಿಲ್ಲ ✓
- C. ಕೆಂಪು ಬೆಳಕು ಹೀರಲ್ಪಡುತ್ತದೆ, ಆದ್ದರಿಂದ ಯಾವ ಬೆಳಕು ಸಹ ಹೊರಬರುವುದಿಲ್ಲ
- D. ಎಲ್ಲಾ ಬಣ್ಣಗಳನ್ನು ತೋರಿಸುವ ಒಂದು ಪೂರ್ಣ ರೋಹಿತವು ಕಾಣಿಸಿಕೊಳ್ಳುತ್ತದೆ

Q3 General Science

ರೈತರು ತಮ್ಮ ಫಸಲಿನಲ್ಲಿ ಪ್ರೋಟೀನ್ ಅಂಶವನ್ನು ಹೆಚ್ಚಿಸಲು ಬಯಸಿದರೆ ಯಾವ ಬೆಳೆಯ ಕೃಷಿ ಮಾಡುವುದನ್ನು ಪರಿಗಣಿಸಬೇಕು?

- A. ಎಣ್ಣೆ ಕಾಳುಗಳು
- B. ಬೇಳೆಕಾಳುಗಳು ✓
- C. ಧಾನ್ಯಗಳು
- D. ತರಕಾರಿಗಳು ಮತ್ತು ಮಸಾಲೆ ಬೆಳೆಗಳು

Q4 General Science

ಈ ಕೆಳಗಿನ ಯಾವ ಲೋಹವು ಅಧಿಕ ಹೈಡ್ರೋಕ್ಲೋರಿಕ್ ಆಮ್ಲದೊಂದಿಗೆ ವರ್ತಿಸುವಾಗ ಅತ್ಯಂತ ಹೆಚ್ಚಿನ ಶಾಖವನ್ನು ಬಿಡುಗಡೆ ಮಾಡುತ್ತದೆ?

- A. ನಿಕಲ್
- B. ಸತು
- C. ಕಬ್ಬಿಣ
- D. ಮೆಗ್ನೀಸಿಯಮ್ ✓

Q5 General Science

ಸತುವಿನ ಕಾರ್ಬೋನೇಟ್ ಅದರನ್ನು ಅಪಕರ್ಷಣಗೊಳಿಸುವ ಮೊದಲು ಸತುವಿನ ಆಕ್ಸೈಡ್ ಆಗಿ ಪರಿವರ್ತಿಸಲು ಯಾವ ಪ್ರಕ್ರಿಯೆಯನ್ನು ಬಳಸಲಾಗುತ್ತದೆ?

- A. ಅಲ್ಯೂಮಿನಿಯಂ ಪುಡಿಯೊಂದಿಗೆ ಬಿಸಿ ಮಾಡುವುದು
- B. ಸೀಮಿತ ಗಾಳಿಯಲ್ಲಿ ಪ್ರಬಲವಾಗಿ ಬಿಸಿ ಮಾಡುವುದು ✓
- C. ಹೆಚ್ಚು ಗಾಳಿಯಲ್ಲಿ ಪ್ರಬಲವಾಗಿ ಬಿಸಿ ಮಾಡುವುದು
- D. ಇಂಗಾಲದ ಪುಡಿಯೊಂದಿಗೆ ಬಿಸಿ ಮಾಡುವುದು

Q6 General Science

ಪಾದರಸವನ್ನು ಸಿನ್ನಬಾರ್ ಅದರಿಂದ ನೇರ ಅಪಕರ್ಷಣ ಮಾಡುವ ಬದಲು ಎರಡು ತಾಪನದ ಹಂತಗಳ ಮೂಲಕ ಪಡೆಯಲಾಗುತ್ತದೆ, ಏಕೆ?

- A. ಪಾದರಸದ ಸಲ್ಫೈಡ್ ಮೊದಲು ಆಕ್ಸೈಡ್ ಆಗಿ ಬದಲಾಗಬೇಕು ✓
- B. ಪಾದರಸ ಸಲ್ಫೈಡ್ ವಿಭಜನ ಕ್ರಿಯೆಗೆ ಒಳಪಡುವ ಮೊದಲು ಕರಗುತ್ತದೆ
- C. ಪಾದರಸ ಲೋಹವು ಬಿಸಿ ಮಾಡಿದಾಗ ಆಮ್ಲಜನಕದೊಂದಿಗೆ ವರ್ತಿಸುತ್ತದೆ
- D. ಪಾದರಸದ ಆಕ್ಸೈಡ್ ಗಾಳಿಯ ಅನುಪಸ್ಥಿತಿಯಲ್ಲಿ ಮಾತ್ರ ರೂಪುಗೊಳ್ಳುತ್ತದೆ



Q7 General Science

ಒಬ್ಬ ವಿದ್ಯಾರ್ಥಿಯು ವಿದ್ಯುತ್ ಪ್ರವಹಿಸುತ್ತಿರುವ ಒಂದು ತಂತಿಯ ಬಳಿ ಒಂದು ದಿಕ್ಕಿನಲ್ಲಿ ತಂದಾಗ ಅದರ ಮುಳ್ಳು ವಿಚಲಿಸುವುದನ್ನು ಗಮನಿಸುತ್ತಾನೆ. ಕಾಂತ ಕ್ಷೇತ್ರಗಳ ಕುರಿತಾದ ನಿಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನು ಬಳಸಿಕೊಂಡು, ಇದು ಏಕೆ ಸಂಭವಿಸುತ್ತದೆ ಎಂಬುದನ್ನು ವಿವರಿಸಿ.

A. ತಂತಿಯಿಂದ ಉಂಟಾಗುವ ಗುರುತ್ವಾಕರ್ಷಣ ಪರಿಣಾಮವು ಮುಳ್ಳನ್ನು ಚಲಿಸುವಂತೆ ಮಾಡುತ್ತದೆ

B. ವಿದ್ಯುತ್ ಪ್ರವಾಹವಿರುವ ತಂತಿಯು ಉತ್ಪಾದಿಸುವ ಕಾಂತಕ್ಷೇತ್ರವು ದಿಕ್ಕಿನಲ್ಲಿ ಮುಳ್ಳಿನ ಮೇಲೆ ಬಲವನ್ನು ಬೀರುತ್ತದೆ ✓

C. ತಂತಿಯು ಉತ್ಪಾದಿಸುವ ವಿದ್ಯುತ್ ಬಲವು ದಿಕ್ಕಿನಲ್ಲಿ ಮುಳ್ಳಿನ ಮೇಲೆ ವರ್ತಿಸುತ್ತದೆ

D. ತಂತಿಯು ಬಿಸಿಯಾಗುತ್ತದೆ, ಇದರಿಂದಾಗಿ ಗಾಳಿಯ ಹರಿವು ದಿಕ್ಕಿನಲ್ಲಿ ಮುಳ್ಳನ್ನು ಚಲಿಸುವಂತೆ ಮಾಡುತ್ತದೆ

Q8 General Science

ನಿರ್ದಿಷ್ಟ ಬಣ್ಣ ಮತ್ತು ಮಾದ್ಯಮದ ಜೋಡಿಯಲ್ಲಿ ಪತನ ಕೋನದ ಸೈನ್ ಮತ್ತು ವಕ್ರೀಭವನ ಕೋನದ ಸೈನ್ ನಡುವಿನ ಅನುಪಾತದ ಬಗ್ಗೆ ಸ್ನೆಲ್‌ನ ವಕ್ರೀಭವನ ನಿಯಮವು ಏನು ಹೇಳುತ್ತದೆ?

A. ಅದು ಸ್ಥಿರವಾಗಿರುತ್ತದೆ ✓

B. ಅದು ಕನ್ನಡಿಯ ಪ್ರಕಾರವನ್ನು ಅವಲಂಬಿಸಿರುತ್ತದೆ

C. ಅದು ಪತನ ಕೋನಕ್ಕೆ ಅನುಗುಣವಾಗಿ ಬದಲಾಗುತ್ತದೆ

D. ಅದು ಲಂಬಕ್ಕೆ ಅನುಗುಣವಾಗಿ ಬದಲಾಗುತ್ತದೆ

Q9 General Science

ಈ ಕೆಳಗೆ ನೀಡಲಾದ ಎರಡು ಹೇಳಿಕೆಗಳನ್ನು ಪರಿಶೀಲಿಸಿ ಮತ್ತು ಸರಿಯಾದ ಆಯ್ಕೆಯನ್ನು ಆರಿಸಿ.

ಹೇಳಿಕೆ A: ಹೈನು ಪ್ರಾಣಿಗಳನ್ನು ಪ್ರಮುಖವಾಗಿ ಹಾಲು ಉತ್ಪಾದನೆಗಾಗಿ ಸಾಕಲಾಗುತ್ತದೆ.

ಹೇಳಿಕೆ B: ಹೈನು ಪ್ರಾಣಿಗಳನ್ನು ಮುಖ್ಯವಾಗಿ ಕೃಷಿ ಹೊಲಗಳನ್ನು ಉಳುಮೆ ಮಾಡಲು ಬಳಸಲಾಗುತ್ತದೆ.

A. ಹೇಳಿಕೆ A ಸರಿಯಾಗಿದೆ ಆದರೆ ಹೇಳಿಕೆ B ತಪ್ಪಾಗಿದೆ ✓

B. ಹೇಳಿಕೆ A ತಪ್ಪಾಗಿದೆ ಆದರೆ ಹೇಳಿಕೆ B ಸರಿಯಾಗಿದೆ

C. A ಮತ್ತು B ಎರಡೂ ಹೇಳಿಕೆಗಳು ತಪ್ಪಾಗಿವೆ

D. A ಮತ್ತು B ಎರಡೂ ಹೇಳಿಕೆಗಳು ಸರಿಯಾಗಿವೆ

Q10 General Science

ಕೋಶಕೇಂದ್ರವು ವರ್ಣತಂತುಗಳನ್ನು ಹೊಂದಿರುತ್ತದೆ ಮತ್ತು ಅವು ಕೋಶವಿಭಜನೆಯ ಹಂತದಲ್ಲಿ ಮಾತ್ರ ಸರಳೀಕರಣದ ರಚನೆಗಳಾಗಿ ಕಾಣಿಸಿಕೊಳ್ಳುತ್ತವೆ. ಈ ವರ್ಣತಂತುಗಳು _____ ನಿಂದ ಕೂಡಿರುತ್ತದೆ.

A. ಅಮೈನೋ ಆಮ್ಲಗಳು ಮತ್ತು ಕಾರ್ಬೋಹೈಡ್ರೇಟ್‌ಗಳು

B. ಗ್ಲೂಕೋಸ್ ಮತ್ತು ಕಿಣ್ವಗಳು

C. ಡಿಎನ್‌ಎ ಮತ್ತು ಪ್ರೋಟೀನುಗಳು ✓

D. ಆರ್‌ಎನ್‌ಎ ಮತ್ತು ಮೇದಸ್ಸುಗಳು

Q11 General Science

ಆಮ್ಲಜನಕಯುಕ್ತ ಉಸಿರಾಟದ ಸಮಯದಲ್ಲಿ, ಪ್ರತಿಯೊಂದು ಪೈರುವೇಟ್ ಅಣುವು ವಿಭಜನೆಗೊಂಡು _____ ಇಂಗಾಲದ ಡೈಆಕ್ಸೈಡ್ ಅಣುಗಳನ್ನು ನೀಡುತ್ತದೆ.

A. ನಾಲ್ಕು

B. ಮೂರು ✓

C. ಎರಡು

D. ಒಂದು

Q12 General Science

20 m ಎತ್ತರದ ಒಂದು ಕಟ್ಟಡದ ತುದಿಯಿಂದ ನಿಶ್ಚಲ ಸ್ಥಿತಿಯಲ್ಲಿರುವ ಒಂದು ಚೆಂಡನ್ನು ಬೀಳಿಸಲಾಗುತ್ತದೆ. ಅದು ನೆಲಕ್ಕೆ ಅಪ್ಪಳಿಸುವ ವೇಗವನ್ನು ಲೆಕ್ಕಹಾಕಿರಿ. ($g = 10 \text{ m/s}^2$ ತೆಗೆದುಕೊಳ್ಳಿ)

A. 20 m/s ✓

B. 14 m/s

C. 10 m/s

D. 40 m/s

Q13 General Science

ಮೀಥೇನ್‌ನ ಸಂಪೂರ್ಣ ಮತ್ತು ಅಪೂರ್ಣ ದಹನದ ಉತ್ಪನ್ನಗಳನ್ನು ಹೋಲಿಕೆ ಮಾಡಿ:

A. ಸಂಪೂರ್ಣ $\rightarrow \text{CO} + \text{H}_2\text{O}$; ಅಪೂರ್ಣ $\rightarrow \text{C} + \text{H}_2\text{O}$

B. ಸಂಪೂರ್ಣ $\rightarrow \text{CO}_2 + \text{H}_2\text{O}$; ಅಪೂರ್ಣ $\rightarrow \text{CO} + \text{H}_2\text{O}$ ✓

C. ಸಂಪೂರ್ಣ $\rightarrow \text{CO}_2$ ಮಾತ್ರ; ಅಪೂರ್ಣ $\rightarrow \text{H}_2\text{O}$ ಮಾತ್ರ

D. ಸಂಪೂರ್ಣ $\rightarrow \text{CO} + \text{H}_2\text{O}$; ಅಪೂರ್ಣ $\rightarrow \text{CO}_2 + \text{H}_2\text{O}$



Q14 General Science

ಮಂಜುಗಡ್ಡೆ ಕರಗುವಾಗ, ಬಿಸಿ ಮಾಡಿದಾಗಲೂ ಸಹ ತಾಪಮಾನವು ಸ್ಥಿರವಾಗಿರಲು ಕಾರಣವೇನು?

- A. ಶಾಖಶಕ್ತಿಯು ಮಂಜುಗಡ್ಡೆಯಿಂದ ಬಿಡುಗಡೆಯಾಗಿ ವಾತಾವರಣಕ್ಕೆ ಸೇರುತ್ತದೆ
- B. ಉಷ್ಣ ಶಕ್ತಿಯು ನೇರವಾಗಿ ಕೆಲಸವಾಗಿ ಪರಿವರ್ತನೆಗೊಳ್ಳುತ್ತದೆ
- C. ಉಷ್ಣ ಶಕ್ತಿಯು ಚಲನ ಶಕ್ತಿಯನ್ನು ತಕ್ಷಣವೇ ಹೆಚ್ಚಿಸುತ್ತದೆ
- D. ಕಣಗಳ ಆಕರ್ಷಣೆಯನ್ನು ಮೀರಿ ಹೊರಬರಲು ಉಷ್ಣ ಶಕ್ತಿಯ ಬಳಕೆಯಾಗುತ್ತದೆ ✓

Q15 General Science

ಮಧ್ಯದ ದೊಡ್ಡ ಕುಹರವು ಈ ಕೆಳಗಿನ ಯಾವ ಜೀವಕೋಶದ ವಿಶಿಷ್ಟ ಲಕ್ಷಣವಾಗಿದೆ?

- A. ಸಸ್ಯ ಜೀವಕೋಶಗಳು ✓
- B. ಪ್ರಾಣಿ ಜೀವಕೋಶಗಳು
- C. ಬ್ಯಾಕ್ಟೀರಿಯಾದ ಜೀವಕೋಶಗಳು
- D. ಪ್ರೋಟೋಜೋವಾದ ಜೀವಕೋಶಗಳು

Q16 General Science

ಭೂಮಿಯ ಮೇಲ್ಮೈ ಹತ್ತಿರದಲ್ಲಿ ವಸ್ತುವೊಂದು ಮುಕ್ತವಾಗಿ ಬೀಳುತ್ತಿರುವಾಗ, ಒಂದುವೇಳೆ ಗಾಳಿಯ ರೋಧವನ್ನು ನಿರ್ಲಕ್ಷಿಸಿದರೆ ಈ ಕೆಳಗಿನ ಯಾವ ಭೌತಿಕ ಪರಿಮಾಣವು ಸ್ಥಿರವಾಗಿರುತ್ತದೆ?

- A. ವೇಗವು ಸ್ಥಿರವಾಗಿರುತ್ತದೆ
- B. ಗುರುತ್ವಾಕರ್ಷಣೆಯಿಂದ ಉಂಟಾಗುವ ವೇಗೋತ್ಕರ್ಷವು ಸ್ಥಿರವಾಗಿರುತ್ತದೆ ✓
- C. ಸಂವೇಗವು ಸ್ಥಿರವಾಗಿರುತ್ತದೆ
- D. ಶಕ್ತಿಯು ಸ್ಥಿರವಾಗಿರುತ್ತದೆ

Q17 General Science

ತುಕ್ಕು ಹಿಡಿಯುವುದನ್ನು ತಡೆಗಟ್ಟಲು ಕಬ್ಬಿಣದ ಮೊಳೆಗಳನ್ನು ಸತುವಿನಿಂದ ಲೇಪಿಸಲಾಗುತ್ತದೆ. ಸತುವಿನ ಪದರವು ಗೀಚಿದರೂ ಸಹ, ತುಕ್ಕು ಹಿಡಿಯುವುದಿಲ್ಲ ಏಕೆಂದರೆ:

- A. ಸತುವಿನ ಉಪಸ್ಥಿತಿಯಲ್ಲಿ ಕಬ್ಬಿಣವು ಕಲೆರಹಿತ ಆಗುತ್ತದೆ
- B. ಸತುವು ಗಟ್ಟಿಯಾದ ಆಕ್ಸೈಡ್ ಪದರವನ್ನು ರೂಪಿಸುತ್ತದೆ
- C. ಸತುವು ತೇವಾಂಶದೊಂದಿಗೆ ಪ್ರತಿಕ್ರಿಯಿಸಿ ರಕ್ಷಣಾತ್ಮಕ ಪದರವನ್ನು ರೂಪಿಸುತ್ತದೆ
- D. ಸತುವು ಧನ(ವಿದ್ಯುತ್)ದ್ವಾರದಂತೆ ಕರಗಿ ಕಬ್ಬಿಣದ ಬದಲು ತಾನು ಸಂಕ್ಷಾರಣಗೊಳ್ಳುತ್ತದೆ ✓

Q18 General Science

ಕೃಷಿ ಜಾನುವಾರುಗಳಿಗೆ ಲಸಿಕೆ ಹಾಕುವ ಮುಖ್ಯ ಉದ್ದೇಶವೇನು?

- A. ವೈರಸ್ ಮತ್ತು ಬ್ಯಾಕ್ಟೀರಿಯಾಗಳಿಂದ ಬರುವ ಪ್ರಮುಖ ಕಾಯಿಲೆಗಳಿಂದ ಪ್ರಾಣಿಗಳನ್ನು ರಕ್ಷಿಸುವುದು ✓
- B. ಹಾಲಿನ ಉತ್ಪಾದನೆಯನ್ನು ಹೆಚ್ಚಿಸುವುದು
- C. ಬಾಹ್ಯ ಪರಾವಲಂಬಿಗಳ ದಾಳಿಗಳನ್ನು ತಡೆಗಟ್ಟುವುದು
- D. ಪಶು ಆಹಾರದ ಗುಣಮಟ್ಟವನ್ನು ಸುಧಾರಿಸುವುದು

Q19 General Science

ಒಂದು ದ್ವಿ-ಪೀನ ಮಸೂರವು ವಸ್ತುವಿನ ಎರಡು ಪಟ್ಟು ದೊಡ್ಡದಾದ, ನೈಜ, ತಲೆಕೆಳಗಾದ ಬಿಂಬವನ್ನು ಮೂಡಿಸುತ್ತದೆ. ಮಸೂರಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ವಸ್ತುವು ಎಲ್ಲಿದೆ?

- A. ಮಸೂರದಿಂದ ಸಂಗಮ ದೂರದಲ್ಲಿ
- B. ಮಸೂರದಿಂದ ಸಂಗಮ ದೂರದ ಎರಡು ಪಟ್ಟು ದೂರದಲ್ಲಿದೆ
- C. ಮಸೂರದಿಂದ ದುಪ್ಪಟ್ಟು ಸಂಗಮ ದೂರದ ಆಚೆಗೆ
- D. ಮಸೂರದ ಒಂದು ಸಂಗಮದೂರ ಮತ್ತು ಮಸೂರದ ದುಪ್ಪಟ್ಟು ಸಂಗಮ ದೂರದ ನಡುವೆ ✓

Q20 General Science

ಈ ಕೆಳಗಿನ ಯಾವ ಪ್ರಕಾರದ ಗೋಳೀಯ ದರ್ಪಣದ ಪ್ರತಿಫಲಿಸುವ ಮೇಲ್ಮೈ ಒಳಮುಖವಾಗಿ ಬಾಗಿರುತ್ತದೆ ಮತ್ತು ಗೋಳದ ಕೇಂದ್ರದ ಕಡೆಗೆ ಮುಖ ಮಾಡಿರುತ್ತದೆ?

- A. ಪರವಲೀಯ ದರ್ಪಣ
- B. ಪೀನ ದರ್ಪಣ
- C. ನಿಮ್ಮ ದರ್ಪಣ ✓
- D. ಸಮತಲ ದರ್ಪಣ

Q21 General Science

ಒಂದು ವಿದ್ಯುತ್ ಇಸ್ಪಿ ಪೆಟ್ಟಿಗೆಯು ಶುದ್ಧ ಲೋಹದ ಬದಲಿಗೆ ಮಿಶ್ರಲೋಹದಿಂದ ಮಾಡಿದ ಬಿಸಿಯಾಗುವ ತಂತುವನ್ನು ಬಳಸುತ್ತದೆ. ಮಿಶ್ರಲೋಹಗಳ ಯಾವ ಗುಣವು ಈ ಆಯ್ಕೆಯನ್ನು ಸಮರ್ಥಿಸುತ್ತದೆ?

- A. ಮಿಶ್ರಲೋಹಗಳು ಹೆಚ್ಚಿನ ರೋಧತೆಯನ್ನು ಹೊಂದಿರುತ್ತವೆ ಮತ್ತು ಹೆಚ್ಚಿನ ತಾಪಮಾನದಲ್ಲಿ ಸುಲಭವಾಗಿ ಉತ್ಕರ್ಷಣಗೊಳ್ಳುವುದಿಲ್ಲ ✓
- B. ಮಿಶ್ರಲೋಹಗಳು ಕಡಿಮೆ ರೋಧತೆಯನ್ನು ಹೊಂದಿರುತ್ತವೆ
- C. ಮಿಶ್ರಲೋಹಗಳು ಉತ್ತಮ ವಾಹಕಗಳಾಗಿವೆ
- D. ಮಿಶ್ರಲೋಹಗಳು ಅಗ್ಗವಾಗಿರುತ್ತವೆ



Q22 General Science

ಒಂದು ಕಾರು ಉತ್ತರ ದಿಕ್ಕಿನಲ್ಲಿ 10 ಸೆಕೆಂಡುಗಳಲ್ಲಿ 120 ಮೀಟರ್ ದೂರಕ್ಕೆ ಪ್ರಯಾಣಿಸುತ್ತದೆ ಮತ್ತು ಮುಂದಿನ 10 ಸೆಕೆಂಡುಗಳಲ್ಲಿ ತಕ್ಷಣವೇ ತನ್ನ ಮೂಲ ಸ್ಥಾನಕ್ಕೆ ಮರಳುತ್ತದೆ. ಹಾಗಾದರೆ ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವ ಹೇಳಿಕೆಯು ಇಡೀ ಪ್ರಯಾಣದಲ್ಲಿ ಕಾರಿನ ಸರಾಸರಿ ಜವವನ್ನು ಕುರಿತು ಅತ್ಯುತ್ತಮವಾಗಿ ವಿವರಿಸುತ್ತದೆ?

- A. ಒಟ್ಟು ದೂರವು 20 ಸೆಕೆಂಡುಗಳಲ್ಲಿ 240 m ಆಗಿರುವುದರಿಂದ ಸರಾಸರಿ ವೇಗವು 6 m/s ಆಗಿದೆ
- B. ಒಟ್ಟು ಸಮಯವು 10 ಸೆಕೆಂಡುಗಳು ಆಗಿರುವುದರಿಂದ ಸರಾಸರಿ ವೇಗ 12 m/s ಆಗಿದೆ
- C. ಸ್ಥಾನಪಲ್ಲಟವು ಶೂನ್ಯವಾಗಿರುವುದರಿಂದ ಸರಾಸರಿ ವೇಗವು ಶೂನ್ಯವಾಗಿದೆ ✓
- D. ಕಾರು 10 ಸೆಕೆಂಡುಗಳಲ್ಲಿ 120 m ಕ್ರಮಿಸಿದ್ದರಿಂದ ಸರಾಸರಿ ವೇಗವು 12 m/s ಆಗಿದೆ

Q23 General Science

ಅತಿಯಾದ ವ್ಯಾಯಾಮದ ಸಮಯದಲ್ಲಿ ಸ್ನಾಯುಕೋಶಗಳು ಕೆಲವೊಮ್ಮೆ ಆಮ್ಲಜನಕರಹಿತವಾಗಿ ಉಸಿರಾಡಲು ಕಾರಣವೇನು?

- A. ಏಕೆಂದರೆ ಲ್ಯಾಕ್ಟಿಕ್ ಆಮ್ಲದ ಅಗತ್ಯವಿರುತ್ತದೆ
- B. ಏಕೆಂದರೆ ದೇಹವು ಶಕ್ತಿಯನ್ನು ಶೇಖರಿಸಲು ಬಯಸುತ್ತದೆ
- C. ಏಕೆಂದರೆ ಆಮ್ಲಜನಕದ ಪೂರೈಕೆ ಸೀಮಿತವಾಗಿರುತ್ತದೆ ✓
- D. ಏಕೆಂದರೆ ಗ್ಲೂಕೋಸ್ ಲಭ್ಯವಿರುವುದಿಲ್ಲ

Q24 General Science

ಅಡುಗೆ ಸೋಡಾವನ್ನು (NaHCO_3) ಸಾಮಾನ್ಯವಾಗಿ ಅಡುಗೆ ಮಾಡಲು ಬಳಸಲಾಗುತ್ತದೆ. ಅಡುಗೆ ಸೋಡಾ ಕುರಿತು ಈ ಕೆಳಗಿನ ಯಾವ ಹೇಳಿಕೆಯು ಸರಿಯಾಗಿದೆ?

- A. ಇದು ನೀರು ಅಥವಾ ಆಮ್ಲಗಳೊಂದಿಗೆ ವರ್ತಿಸುವುದಿಲ್ಲ
- B. ಅದು ಗುಣದಲ್ಲಿ ಆಮ್ಲೀಯವಾಗಿದೆ ಮತ್ತು $\text{pH} < 7$ ಹೊಂದಿದೆ
- C. ಇದು ಆಮ್ಲಗಳೊಂದಿಗೆ ವರ್ತಿಸಿ ಇಂಗಾಲದ ಡೈಆಕ್ಸೈಡ್ ಅನಿಲವನ್ನು ಬಿಡುಗಡೆ ಮಾಡುತ್ತದೆ ✓
- D. ಇದು ಕೆಂಪು ಲಿಟ್ಮಸ್ ಅನ್ನು ನೀಲಿ ಬಣ್ಣಕ್ಕೆ ತಿರುಗಿಸುವ ಒಂದು ಪ್ರಬಲವಾದ ಪ್ರತ್ಯಾಮ್ಲವಾಗಿದೆ

Q25 General Science

ಪ್ರಕಾಶಮಾನವಾದ ಲೋಹವು ಆಕ್ಸಿಡೀಕರಣದಿಂದಾಗಿ ಕಾಲಕ್ರಮೇಣ ಹೊಳಪು ಕಳೆದುಕೊಳ್ಳುತ್ತದೆ. ಈ ಪ್ರಕ್ರಿಯೆಯನ್ನು ಏನೆಂದು ಕರೆಯಲಾಗುತ್ತದೆ?

- A. ಶೋಧನೆ
- B. ಅವಿಯಾಗುವಿಕೆ
- C. ಲೋಹದ ಸವೆತ (Corrosion) ✓
- D. ಉತ್ಪನ್ನ (Sublimation)

Q26 General Science

ಕೆಳಗೆ ನೀಡಲಾದ ಎರಡು ಹೇಳಿಕೆಗಳನ್ನು ಪರಿಶೀಲಿಸಿ ಮತ್ತು ಸರಿಯಾದ ಆಯ್ಕೆಯನ್ನು ಆರಿಸಿ.

ಹೇಳಿಕೆ A: ಕಳಪೆ ಶೇಖರಣಾ ಪರಿಸ್ಥಿತಿಗಳು ತೂಕ ನಷ್ಟ ಮತ್ತು ಧಾನ್ಯಗಳ ಬಣ್ಣ ಮಾಸುವಿಕೆಗೆ ಕಾರಣವಾಗುತ್ತವೆ.

ಹೇಳಿಕೆ B: ಕಳಪೆ ಶೇಖರಣಾ ಪರಿಸ್ಥಿತಿಗಳು ಬೀಜದ ಬಾಳಿಕೆಯ ಅವಧಿ ಮತ್ತು ಧಾನ್ಯದ ಸಂರಚನೆಯನ್ನು ಉತ್ತಮವಾಗಿಸುತ್ತವೆ.

- A. ಹೇಳಿಕೆ A ತಪ್ಪಾಗಿದೆ ಆದರೆ B ಸರಿಯಾಗಿದೆ
- B. A ಮತ್ತು B ಎರಡೂ ಹೇಳಿಕೆಗಳು ತಪ್ಪಾಗಿವೆ
- C. ಹೇಳಿಕೆ A ಸರಿ ಆದರೆ B ತಪ್ಪಾಗಿದೆ. ✓
- D. A ಮತ್ತು B ಎರಡೂ ಹೇಳಿಕೆಗಳು ಸರಿಯಾಗಿವೆ

Q27 General Science

ಎರಡು ಪಾತ್ರೆಗಳ ನಡುವೆ ದ್ರವವನ್ನು ವರ್ಗಾಯಿಸುವಾಗ ಯಾವ ಅಳಿಯಬಹುದಾದ ಪ್ರಮಾಣವು ಒಂದೇ ಆಗಿರುತ್ತದೆ?

- A. ದ್ರವದ ಪರಿಮಾಣವು ಬದಲಾಗದೆ ಉಳಿಯುತ್ತದೆ ✓
- B. ದ್ರವದ ದ್ರವ್ಯರಾಶಿ ಶೂನ್ಯವಾಗುತ್ತದೆ
- C. ದ್ರವದ ಸಾಂದ್ರತೆಯು ಯಾವಾಗಲೂ ಹೆಚ್ಚಾಗುತ್ತದೆ
- D. ದ್ರವದ ಆಕಾರವು ಬದಲಾಗದೆ ಉಳಿಯುತ್ತದೆ

Q28 General Science

ಆಲ್ಕೀನ್‌ಗಳಲ್ಲಿ (alkenes) ಇಂಗಾಲ ಮತ್ತು ಜಲಜನಕ ಪರಮಾಣುಗಳ ಸಂಖ್ಯೆಯ ನಡುವಿನ ಸರಿಯಾದ ಸಂಬಂಧ ಯಾವುದು?

- A. $\text{C}_n\text{H}_{2n+2}$
- B. $\text{C}_n\text{H}_{2n-2}$
- C. $\text{C}_n\text{H}_{2n+4}$
- D. C_nH_{2n} ✓



General Science

27 Questions • Answer Key

Q1 General Science ENGLISH

A sound wave travels from air into water. How does its frequency, speed, and wavelength change as it crosses the boundary?

- A. Its frequency increases, speed remains the same, and wavelength decreases
- B. Its frequency decreases, speed decreases, and wavelength increases
- C. Its frequency remains constant, speed decreases, and wavelength decreases
- D. Its frequency remains constant, speed increases, and wavelength increases ✓

Q2 General Science ENGLISH

Suppose a student wants to design an amusement park ride that moves people in a circle at uniform speed. Which concept should the student apply to ensure riders stay safely in their seats during the circular motion?

- A. A constant inward (centripetal) force is needed on the riders to keep them in uniform circular motion ✓
- B. Increasing speed randomly will keep them safe
- C. A constant outward force is needed to keep riders pressed against their seats
- D. Gravity alone is sufficient to keep the riders in place

Q3 General Science ENGLISH

Which of the following does NOT describe a property of ethanol (C_2H_5OH)?

- A. It turns blue litmus paper red. ✓
- B. It is a clear, colourless liquid with a pleasant smell.
- C. It is soluble in water in all proportions.
- D. It reacts with sodium to release hydrogen gas.

Q4 General Science ENGLISH

Which property explains why the path of light is not visible when a beam passes through a true solution?

- A. Particles are smaller than one nanometre ✓
- B. Particles are heavier than solvent molecules
- C. Particles can be removed by filtration
- D. Particles settle down on standing still

Q5 General Science ENGLISH

Methane reacts with chlorine in the presence of sunlight to form chloromethane and hydrogen chloride. Which of the following statements is CORRECT?

Statement I: Only one chlorine atom can substitute at a time.

Statement II: The reaction is an example of a substitution reaction.

Statement III: Multiple substitution can occur if the reaction continues.

- A. I, II and III are true ✓
- B. Only II and III are true
- C. Only I and II are true
- D. Only I and III are true

Q6 General Science ENGLISH

Why are solids described as rigid in nature?

- A. Their particles move freely with weak mutual attraction
- B. Their particles slide easily under applied external force
- C. Their particles are closely packed with strong attraction ✓
- D. Their particles possess very low mass and volume



Q7 General Science **ENGLISH**

Which metal listed below shows the strongest reaction when added to dilute hydrochloric acid?

A. Copper

B. Iron

C. Zinc

D. Magnesium



Q8 General Science **ENGLISH**

Which statement correctly describes a heterogeneous mixture?

A. Its composition remains fixed and constant always

B. Its components cannot be separated by physical methods

C. Its composition is not uniform throughout the mixture



D. Its particles are uniformly distributed at particle level

Q9 General Science **ENGLISH**

When an object is placed at the center of curvature (C) of a concave mirror, what is the nature of the image formed?

A. Real and inverted



B. Enlarged and inverted

C. Virtual and erect

D. Highly diminished, point-sized

Q10 General Science **ENGLISH**

Which of the following is present only in plant cell?

A. Cell wall



B. Nucleus

C. Endoplasmic reticulum

D. Vacuoles

Q11 General Science **ENGLISH**

What is a key difference between chemical fertilisers and manures in terms of nutrient release to plants?

A. Chemical fertilisers enhance biological activity.

B. Manures have higher and less variable nutrient concentrations.

C. Conventional chemical fertilisers release nutrients gradually.

D. Manures release nutrients gradually.



Q12 General Science **ENGLISH**

Why is it important to keep the level of vitamins A and K high in poultry feeds for broilers?

A. To reduce the size of eggs

B. To make broilers resistant to external parasites

C. To ensure proper nutrition for healthy growth and development



D. To increase their tolerance to cold weather

Q13 General Science **ENGLISH**

Which rule helps to determine the direction of force acting on a current-carrying conductor in a magnetic field?

A. Ampere's rule

B. Fleming's left-hand rule



C. Faraday's law

D. Right-hand rule

Q14 General Science **ENGLISH**

What happens to the work done if the displacement becomes zero despite a force being applied?

A. The work done increases.

B. The work done is zero.



C. The work done remains constant.

D. The work done decreases.



Q15 General Science **ENGLISH**

Magnesium ribbon burns with:

- A. No visible flame
- B. A yellow luminous flame
- C. A bright white flame** ✓
- D. A blue non-luminous flame

Q16 General Science **ENGLISH**

A plant sheds its leaves and bark to remove stored waste products. How does this strategy differ from the way animals excrete wastes?

- A. Plants have a single organ system for waste removal, unlike animals.
- B. Plants use parts that will be shed, while animals have specialized organs for excretion.** ✓
- C. Plants use blood circulation for excretion, unlike animals.
- D. Plants use digestive systems to remove waste, unlike animals.

Q17 General Science **ENGLISH**

If a point is located below the principal axis of a spherical mirror, what sign is assigned to its perpendicular distance according to the sign convention for spherical mirrors?

- A. Positive
- B. Negative** ✓
- C. Zero
- D. Depends on mirror type

Q18 General Science **ENGLISH**

Which two elements are primarily added to soil by green manure?

- A. Nitrogen and phosphorus** ✓
- B. Nitrogen and potassium
- C. Potassium and magnesium
- D. Phosphorus and calcium

Q19 General Science **ENGLISH**

Which of the following statements is TRUE for all saturated hydrocarbons?

- A. They readily undergo addition reactions.
- B. They contain at least one double bond.
- C. They show substitution reactions rather than addition reactions.** ✓
- D. They are generally very reactive due to triple bonds.

Q20 General Science **ENGLISH**

A young child is diagnosed with both myopia and hypermetropia in different eyes. What is the most appropriate corrective approach?

- A. Using cylindrical lenses in both eyes
- B. Providing identical convex lenses for both eyes
- C. Providing glasses with different lenses for each eye (concave for one, convex for the other)** ✓
- D. Using bifocal lenses in both eyes

Q21 General Science **ENGLISH**

Why does a torch bulb glow only when the switch is turned on?

- A. Because the battery is charged
- B. Because the switch completes the circuit, allowing current to flow** ✓
- C. Because the bulb is in series with the cell
- D. Because the bulb is functional

Q22 General Science **ENGLISH**

A technician needs to connect a new appliance in a domestic circuit to ensure it receives full voltage and can be operated independently. What should the technician do?

- A. Connect the appliance only to the neutral wire
- B. Connect the appliance in series with existing appliances
- C. Connect the appliance only to the earth wire
- D. Connect the appliance in parallel with existing appliances** ✓



Q23 General Science **ENGLISH**

Why is it important to provide dairy cattle with a sloping floor in their sheds and balanced rations in their diet?

- A. To keep the shed dry and facilitate cleaning, and reduce roughage intake.
- B. To protect from parasites, and increase fibre content.
- C. To keep the shed dry and facilitate cleaning, and to support health and milk production. ✓
- D. To prevent diseases and to support health and milk production.

Q24 General Science **ENGLISH**

Which of the following compounds has a formula unit mass of 100 u?

- A. CaCO_3 ✓
- B. CaCl_2
- C. Na_2CO_3
- D. MgO

Q25 General Science **ENGLISH**

Why is potassium hydroxide used in the bell-jar experiment involving photosynthesis?

- A. To absorb carbon dioxide ✓
- B. To supply oxygen
- C. To remove water
- D. To provide sunlight

Q26 General Science **ENGLISH**

Where is perinuclear space present?

- A. Within the nucleolus
- B. Outside the nucleus
- C. Inside of the nucleus
- D. Between two layers of the nuclear envelope ✓

Q27 General Science **ENGLISH**

Which change will promote micelle formation in a detergent solution?

- A. Increasing detergent concentration above Critical Micelle Concentration(CMC) ✓
- B. Decreasing detergent concentration below Critical Micelle Concentration(CMC)
- C. Adding more water to dilute the solution
- D. Lowering the temperature below Kraft point



General Science

30 Questions • Answer Key

Q1 General Science ENGLISH

What role does the earth wire play in the safety of domestic appliances with metallic bodies?

- A. It increases the appliance's voltage
- B. It provides a low-resistance path for leakage current ✓
- C. It controls the current flow
- D. It prevents the fuse from melting

Q2 General Science ENGLISH

A security mirror in a store is required to provide a wide field of view and always form diminished, upright images regardless of the position of objects. Which type of mirror and principle should be used for its design?

- A. Concave mirror using the mirror formula for real, inverted images
- B. Convex mirror using the mirror formula for virtual, diminished images ✓
- C. Concave mirror for magnification
- D. Plane mirror for undistorted images

Q3 General Science ENGLISH

In a redox reaction, what is the role of a 'reducing agent'?

- A. It is a substance that only participates in decomposition reactions.
- B. It is a substance that causes reduction and itself gets oxidized. ✓
- C. It is an agent that helps other substances to be oxidized.
- D. It is a catalyst that speeds up the reaction.

Q4 General Science ENGLISH

When a light ray enters a rectangular glass slab obliquely from air, what happens to its direction at the first interface?

- A. It bends towards the normal ✓
- B. It gets reflected back
- C. It travels straight
- D. It bends away from the normal

Q5 General Science ENGLISH

A cyclic compound that contains only single bonds is classified as:

- A. Aromatic
- B. Aliphatic
- C. Saturated ✓
- D. Unsaturated

Q6 General Science ENGLISH

Why do gases exert pressure on the walls of the container?

- A. Gas particles possess very low kinetic energy
- B. Gas particles stay fixed inside the container
- C. Gas particles move randomly and strike the walls ✓
- D. Gas particles attract the container walls strongly

Q7 General Science ENGLISH

Why is nitrogen gas used to prevent oxidation in bags containing foods such as chips?

- A. Nitrogen gas inhibits oxidation by replacing oxygen. ✓
- B. Nitrogen gas makes chips crispier.
- C. Nitrogen gas accelerates oxidation.
- D. Nitrogen gas enhances the taste of the food.



Q8 General Science **ENGLISH**

Which of the following is an example of membrane bound little structures present in a cell?

A. Lysosome



B. Ribosome

C. Nucleoplasm

D. Cytoplasm

Q9 General Science **ENGLISH**

Which combination best represents essential life processes for maintaining an individual organism?

A. Growth, movement, reproduction and response

B. Reproduction, variation, heredity and adaptation

C. Locomotion, feeding, communication and defence

D. Nutrition, respiration, transportation and excretion



Q10 General Science **ENGLISH**

Which of the following irrigation methods leads to the least wastage of water?

A. Drip irrigation



B. Sprinkler irrigation

C. Flood irrigation

D. Furrow irrigation

Q11 General Science **ENGLISH**

A low platelet count may lead to _____.

A. Fever

B. Anemia

C. Excessive bleeding



D. Infection

Q12 General Science **ENGLISH**

Which of the following is NOT correctly matched, with regard to plant and animal cells?

A. Plastids - Present in plant cells

B. Cell wall - Present in animal cells



C. Vacuoles - Very large and present in plant cells

D. Plastids - Absent in animal cells

Q13 General Science **ENGLISH**

According to the law of constant proportions, the compound in which hydrogen and oxygen are present in a fixed mass ratio of 1:8 is:

A. Hydrogen peroxide

B. Ammonia

C. Methane

D. Water



Q14 General Science **ENGLISH**

Which statement is INCORRECT regarding prokaryotic organism?

A. Membrane-bound organelles are absent

B. Single chromosome is present

C. Nuclear region is defined



D. Primitive form of organism

Q15 General Science **ENGLISH**

Which of the following statements is correct regarding the storage of grains?

A. Abiotic factors responsible for losses in stored grains are temperature, rodents and fungi.

B. Storage losses in agriculture produce can be very low.

C. Biotic factors responsible for losses in stored grains are insects, rodents and moisture.

D. Biotic factors responsible for losses in stored grains are insects, rodents and fungi.



Q16 General Science **ENGLISH**

A device operates at 2 amperes current and 220 volts potential difference for 5 hours. How much electrical energy does it consume, expressed in kilowatt hours (kWh)?

A. 0.22 kWh

B. 2.2 kWh



C. 5 kWh

D. 1.1 kWh



Q17 General Science **ENGLISH**

A cyclist increases her speed from 6 m/s to 12 m/s in 3 seconds on a straight road. What is her acceleration during this period?

- A. 3 m/s²
- B. 0.5 m/s²
- C. 2 m/s² ✓
- D. 6 m/s²

Q18 General Science **ENGLISH**

An object is placed on a shelf 2 m above the ground. If the shelf is raised to 4 m, what happens to the potential energy of the object?

- A. The potential energy remains the same
- B. The potential energy halves
- C. The potential energy doubles ✓
- D. The potential energy triples

Q19 General Science **ENGLISH**

A room heater and an electric bulb both convert electrical energy to heat, but why does only the bulb emit significant visible light?

- A. The heater is made of a different material
- B. The bulb's filament reaches a higher temperature, emitting visible light ✓
- C. The heater uses magnetic effect instead of heating effect
- D. The circuit design is different

Q20 General Science **ENGLISH**

Why do wet clothes dry faster when spread out?

- A. Clothes become hotter
- B. Water boils off
- C. Water escapes faster due to sunlight
- D. Surface area is increased ✓

Q21 General Science **ENGLISH**

In a parallel combination of three resistors, which statement correctly describes the total current in the circuit?

- A. It is the average of the currents through each resistor
- B. It is equal to the current through the resistor with the lowest resistance
- C. It is equal to the sum of the currents through each resistor ✓
- D. It is the same as the current through each resistor

Q22 General Science **ENGLISH**

Which of the following best supports the concept that matter is made-up of particles?

- A. Ice melts to form water
- B. Water boils at 100°C
- C. A drop of ink spreads uniformly in water ✓
- D. Metals conduct electricity

Q23 General Science **ENGLISH**

Which of the following will diffuse slowest in air?

- A. Oxygen
- B. Ammonia
- C. Hydrogen
- D. Chlorine ✓

Q24 General Science **ENGLISH**

Which statement best explains why blood cells are **NOT** found in the urine of a healthy person?

- A. They are broken down in the kidneys
- B. They are filtered and returned to the blood
- C. They are too large to pass through glomerular pores ✓
- D. They are reabsorbed in tubules



Q25 General Science **ENGLISH**

A ball initially at rest is dropped from a height and takes 5 seconds to reach the ground. What is the average speed during its fall? ($g = 10 \text{ m/s}^2$)

- A. 50 m/s
- B. 10 m/s
- C. 20 m/s
- D. 25 m/s** ✓

Q26 General Science **ENGLISH**

Chloroplast is present in which of the following parts of a cell?

- A. Endoplasmic reticulum
- B. Cytoplasm** ✓
- C. Nucleoplasm
- D. Peroxisome

Q27 General Science **ENGLISH**

Which property correctly distinguishes liquids from solids?

- A. Liquids cannot diffuse into other substances
- B. Liquids have fixed shape but no fixed volume
- C. Liquids have fixed volume but no fixed shape** ✓
- D. Liquids are completely incompressible in nature

Q30 General Science **ENGLISH**

Match the tobacco practice with the long-term consequences of consuming it.

	Column A		Column B
(a)	Cigarette smoking	(i)	Oral cancer
(b)	Chewing tobacco	(ii)	Emphysema
(c)	Passive smoking	(iii)	Respiratory infections
(d)	Long-term nicotine exposure	(iv)	Cardiovascular disorders

- A. a-ii, b-i, c-iii, d-iv
- B. a-ii, b-i, c-iv, d-iii** ✓
- C. a-iv, b-ii, c-i, d-iii
- D. a-i, b-iii, c-ii, d-iv

Q28 General Science **ENGLISH**

Which of the following does NOT define the motion of a pendulum swinging back and forth?

- A. The pendulum exhibits uniform motion** ✓
- B. The pendulum exhibits periodic motion
- C. The pendulum exhibits accelerated motion
- D. The pendulum exhibits non-uniform motion

Q29 General Science **ENGLISH**

When magnesium reacts with oxygen to form magnesium oxide, which of the following statements is NOT correct?

- A. The compound formed contains ionic bonds.
- B. Oxygen gains electrons to form O^{2-} ions.
- C. Magnesium loses electrons to form Mg^{3+} ions.** ✓
- D. Magnesium loses electrons to form Mg^{2+} ions.



General Science

26 Questions • Answer Key

Q1 General Science ENGLISH

Which of the following is a biotic factor causing storage losses in grains?

- A. Moisture
- B. Temperature
- C. Sunlight
- D. Insects



Q2 General Science ENGLISH

Which pair of olfactory indicators loses its smell in a basic solution?

- A. Onion and blue litmus
- B. Vanilla essence and clove oil
- C. Turmeric and onion
- D. Phenolphthalein and onion



Q3 General Science ENGLISH

Refer to the two statements given below and choose the CORRECT option.

Statement A: While writing the chemical formula of a compound, the total positive and negative charges must balance each other.

Statement B: Balancing valencies ensures that the compound formed is electrically neutral.

- 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.



Q4 General Science ENGLISH

Why is intracellular digestion suitable for unicellular organisms?

- A. They have large body cavities.
- B. They lack specialized digestive organs.
- C. They lack digestive enzymes.
- D. They depend on external digestion.



Q5 General Science ENGLISH

Identify the CORRECT statement about the chlor-alkali process:

- A. Hydrogen gas is formed at the cathode and chlorine gas at the anode.
- B. Sodium hydroxide is generated near the anode during electrolysis.
- C. It is used for the preparation of Na_2CO_3 solution by electrolysis of brine.
- D. NaOH is formed at the anode and chlorine gas at the cathode.



Q6 General Science ENGLISH

An electric refrigerator has a power rating of 500 W and is used for 6 hours each day. If the cost of electrical energy is ₹4.00 per kilowatt-hour, what will be the total cost of operating the refrigerator for 30 days?

- A. ₹180
- B. ₹360
- C. ₹300
- D. ₹240



Q7 General Science ENGLISH

A designer wants to create a device that spreads light from a small bulb to illuminate a wide area uniformly. Which lens should be used and why?

- A. A convex lens, because it converges light rays
- B. A plane glass, because it transmits light without bending
- C. A prism, because it bends light at an angle
- D. A concave lens, because it diverges light rays outward



Q8 General Science **ENGLISH**

Which material can be magnetised using the strong magnetic field inside a solenoid?

A. Soft iron



B. Plastic

C. Copper

D. Aluminum

Q9 General Science **ENGLISH**

A farmer wants to improve both the quantity and taste of honey produced on his bee farm. Which of the following strategies should he adopt?

A. Move the apiary to an area with fewer flowers.

B. Use only local bee varieties for honey production.

C. Reduce the number of beehives and increase the number of bees.

D. Increase the variety and quantity of flowering plants near the beehives.



Q10 General Science **ENGLISH**

What happens to insoluble impurities during electrolytic refining?

A. They evaporate

B. They settle as anode mud



C. They deposit on cathode

D. They dissolve completely

Q11 General Science **ENGLISH**

A wire of a given material has length l and cross-sectional area A , and its resistance is $9\ \Omega$. Another wire of the same material has length $l/3$ and cross-sectional area $3A$. What will be the resistance of the second wire?

A. $1\ \Omega$



B. $2\ \Omega$

C. $6\ \Omega$

D. $0.5\ \Omega$

Q12 General Science **ENGLISH**

A passenger in a moving car feels a jerk backward when the car suddenly starts. How does the first law of motion explain this experience?

A. The passenger tends to remain at rest while the car moves forward, showing inertia.



B. Friction from the seat creates the backward jerk.

C. The seat pushes the passenger forward, causing the sensation.

D. The passenger is pushed backward by the air inside the car.

Q13 General Science **ENGLISH**

What happens to the potential energy of an object if its mass is halved while its height above the ground remains constant?

A. The potential energy is halved



B. The potential energy is doubled

C. The potential energy becomes zero

D. The potential energy remains unchanged

Q14 General Science **ENGLISH**

A gardener notices fallen leaves under a tree. Which strategy of plant excretion does this illustrate, and what type of waste handling is involved?

A. Releasing waste as oxygen only.

B. Converting waste into fruits.

C. Excreting waste through roots only.

D. Storing waste in leaves that fall off.



Q15 General Science **ENGLISH**

If atmospheric refraction did not occur, which change would be most noticeable during the observation of stars from Earth?

A. Stars would disappear from the night sky.

B. Stars would not twinkle; their light would remain steady.



C. Stars would change color rapidly.

D. Planets would twinkle like stars.



Q16 General Science **ENGLISH**

Which statement accurately describes how energy transforms during the free fall of an object under gravity?

- A. Potential energy is converted into heat energy during the fall.
- B. Both potential and kinetic energies remain constant.
- C. Potential energy decreases while kinetic energy increases, maintaining constant total mechanical energy. ✓
- D. Potential energy and kinetic energy both decrease.

Q17 General Science **ENGLISH**

A micelle has its hydrophobic ends directed:

- A. Towards the center away from water ✓
- B. Towards water molecules directly
- C. Outside forming hydrogen bonds
- D. Randomly in all possible directions

Q18 General Science **ENGLISH**

Washing soda is commonly used to:

- A. Neutralise acids in human blood
- B. Remove grease and soften water ✓
- C. Increase acidity in baked foods
- D. Preserve meat for long periods

Q19 General Science **ENGLISH**

Which element exists as a monoatomic molecule?

- A. Chlorine
- B. Oxygen
- C. Argon ✓
- D. Nitrogen

Q20 General Science **ENGLISH**

A student adds lead (II) nitrate ($\text{Pb}(\text{NO}_3)_2$) to an unknown solution. A yellow precipitate forms. What could the unknown solution be?

- A. Copper sulphate (CuSO_4)
- B. Barium sulphate (BaSO_4)
- C. Sodium chloride (NaCl)
- D. Potassium iodide (KI) ✓

Q21 General Science **ENGLISH**

What is the reason why electrons move in a conducting wire when connected to a battery, but not when the wire is left untouched?

- A. Wire is made of copper
- B. Electrons have intrinsic energy for movement
- C. Gravity acts on electrons in the wire
- D. A battery creates a potential difference that sets electrons in motion ✓

Q22 General Science **ENGLISH**

Why are crops with different nutrient requirements chosen for inter-cropping?

- A. To increase the duration of crop growth
- B. To prevent all pests and diseases completely
- C. To ensure maximum utilisation of nutrients supplied to the field ✓
- D. To allow for crop rotation in succession

Q23 General Science **ENGLISH**

If the bicuspid (mitral) valve fails to close properly, which immediate effect is most likely during ventricular contraction?

- A. Mixing of oxygenated and deoxygenated blood in the ventricles
- B. Backflow of blood from the right ventricle to the right atrium
- C. Backflow of blood from the left ventricle to the left atrium ✓
- D. Reduced flow of blood to the lungs



Q24 General Science **ENGLISH**

Why is alcohol considered a cleaner fuel than petrol?

- A. It burns without oxygen
- B. It produces less smoke ☒
- C. It burns at low temperature
- D. It gives higher energy

Q25 General Science **ENGLISH**

Which of the following types of connective tissue is present in the larynx of a human body?

- A. Cartilage ☒
- B. Areolar
- C. Ligament
- D. Adipose

Q26 General Science **ENGLISH**

Consider the reaction:



Which of the following statements is/are correct?

- (A) The reaction represents the oxidation of a primary alcohol to a carboxylic acid.
- (B) Alkaline KMnO_4 acts as an oxidising agent.
- (C) Alkaline KMnO_4 acts as a reducing agent.

- A. A, B and C
- B. Only A and B ☒
- C. Only A and C
- D. Only B



General Science

27 Questions • Answer Key

Q1 General Science ENGLISH

Which of the following everyday mixtures is best classified as a suspension?

- A. Chalk powder mixed with water ✓
- B. Copper sulphate dissolved in water
- C. Salt solution prepared in water
- D. Sugar completely dissolved in water

Q2 General Science ENGLISH

If the current in a wire is 2 amperes, how much charge flows through a cross-section in 5 seconds?

- A. 2.5 coulombs
- B. 10 coulombs ✓
- C. 7 coulombs
- D. 0.4 coulombs

Q3 General Science ENGLISH

What is the sign of the focal length for a convex lens as per the sign convention for spherical lenses?

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

Q4 General Science ENGLISH

Which observation supports the law of constant proportions for water?

- A. Water exists in three states
- B. Water boils at fixed temperature
- C. Hydrogen and oxygen ratio is fixed ✓
- D. Water conducts electricity weakly

Q5 General Science ENGLISH

What conclusion can be drawn from the experiment in which potassium permanganate solution remains coloured even after repeated dilution?

- A. Particles of matter are visible to naked eye
- B. Particles of matter are fixed and stationary
- C. Particles of matter are extremely small in size ✓
- D. Particles of matter occupy no space at all

Q6 General Science ENGLISH

A student uses a convex lens to project an image of a tree onto a wall. If the image is found to be smaller than the tree, what can be inferred about the tree's position relative to the lens?

- A. The tree is placed beyond twice the focal length (beyond 2F) of the lens. ✓
- B. The tree is between the lens and its focal point.
- C. The tree is at the focal point of the lens.
- D. The tree is at twice the focal length from the lens.

Q7 General Science ENGLISH

A dentist uses a mirror to obtain a large image of a patient's tooth. Which mirror should the dentist use and why?

- A. Plane mirror, because it gives a real image
- B. Spherical mirror, because it gives a virtual image
- C. Concave mirror, because it gives a magnified image ✓
- D. Convex mirror, because it gives a magnified image

Q8 General Science ENGLISH

Why are sulphide ores usually converted into oxides before the extraction of metals?

- A. Sulphide ores contain more gangue materials
- B. Metal oxides are easier to reduce than sulphides ✓
- C. Metal sulphides react faster with carbon
- D. Sulphide ores are unstable at room temperature



Q9 General Science ENGLISH

If a body at rest is dropped from a certain height and takes 4 seconds to reach the ground, what is the approximate height from which it was dropped? (Take $g = 10 \text{ m/s}^2$)

- A. 100 meters
- B. 80 meters ✓
- C. 160 meters
- D. 40 meters

Q10 General Science ENGLISH

Which of the following tissues ensures that food made in the leaves is delivered to all plant parts?

- A. Epidermis
- B. Mesophyll
- C. Xylem
- D. Phloem ✓

Q11 General Science ENGLISH

In a micelle, which part faces outward toward water?

- A. Grease molecule
- B. Ionic head ✓
- C. Non-polar end
- D. Hydrocarbon tail

Q12 General Science

ಸಸ್ಯ ರೋಗಗಳು ಈ ಕೆಳಗಿನವುಗಳ ಮೂಲಕ ಹರಡುವ ರೋಗಕಾರಕಗಳಿಂದ ಉಂಟಾಗುತ್ತವೆ:

- A. ಬೆಳೆಯ ಅವಶೇಷಗಳು ಮಾತ್ರ
- B. ಮಣ್ಣು, ನೀರು ಮತ್ತು ಗಾಳಿ ✓
- C. ರಸಗೊಬ್ಬರ ಮತ್ತು ಕೊಟ್ಟಿಗೆಗೊಬ್ಬರ ಮಾತ್ರ
- D. ಸೂರ್ಯನ ಬೆಳಕಿಗೆ ಒಡ್ಡಿಕೊಳ್ಳುವುದರಿಂದ

Q13 General Science ENGLISH

Why are brackets used in the formula $\text{Ca}(\text{OH})_2$?

- A. To show ionic nature
- B. To balance oxygen atoms
- C. To indicate two hydroxide groups ✓
- D. To represent molecular bonding

Q14 General Science ENGLISH

When dilute hydrochloric acid reacts with calcium carbonate, the gas evolved is passed through limewater. On passing the gas in excess, the milkiness disappears due to the formation of:

- A. Calcium carbonate
- B. Calcium oxide
- C. Calcium hydroxide
- D. Calcium hydrogen carbonate ✓

Q15 General Science

ಈ ಕೆಳಗಿನ ಯಾವ ಸನ್ನಿವೇಶವು ಕ್ರಿಯಾ ಬಲ ಮತ್ತು ಪ್ರತಿಕ್ರಿಯಾ ಬಲಗಳಿಗೆ ಒಂದು ಉದಾಹರಣೆಯಲ್ಲ?

- A. ಒಂದು ಕ್ರಿಕೆಟ್ ಬೆಂಡಿಗೆ ಬಾರಿಸುವ ಒಂದು ಬ್ಯಾಟ್
- B. ನೀರನ್ನು ಹಿಂದಕ್ಕೆ ತಳ್ಳುವ ಒಬ್ಬ ಈಜುಗಾರ
- C. ಮೇಲಕ್ಕೆ ಎಸೆದ ಒಂದು ಚೆಂಡು ಗುರುತ್ವಾಕರ್ಷಣೆಯ ಬಲದಿಂದಾಗಿ ಮತ್ತೆ ಕೆಳಗೆ ಬರುವುದು ✓
- D. ಮೇಲ್ಮುಖವಾಗಿ ಉಡಾವಣೆಯಾಗುವ ಒಂದು ರಾಕೆಟ್

Q16 General Science

ಕೃಷಿ ನೀರಿನ ಲಭ್ಯತೆ ಮತ್ತು ಮಣ್ಣಿನ ಗುಣಮಟ್ಟವನ್ನು ಸುಧಾರಿಸಲು ತಡೆಕಟ್ಟಿಗಳು (ಚೆಕ್ ಡ್ಯಾಮ್) ಹೇಗೆ ಸಹಾಯ ಮಾಡುತ್ತವೆ?

- A. ಅವು ನಗರದ ಬಳಕೆಗಾಗಿ ಮಾತ್ರ ನೀರನ್ನು ಸಂಗ್ರಹಿಸುತ್ತವೆ ಮತ್ತು ಮಣ್ಣಿನ ಸವೆತವನ್ನು ಕಡಿಮೆ ಮಾಡುತ್ತವೆ
- B. ಅವು ಅಂತರ್ಜಲ ಮಟ್ಟವನ್ನು ಹೆಚ್ಚಿಸುತ್ತವೆ ಮತ್ತು ಮಣ್ಣಿನ ಸವೆತವನ್ನು ಕಡಿಮೆ ಮಾಡುತ್ತವೆ ✓
- C. ಅವು ಹೊಲಗಳಿಂದ ನೀರನ್ನು ಬೇರೆಡೆಗೆ ತಿರುಗಿಸುತ್ತವೆ ಮತ್ತು ಮಣ್ಣಿನ ಸವೆತವನ್ನು ಹೆಚ್ಚಿಸುತ್ತವೆ
- D. ಅವು ನದಿ ನೀರಿನಿಂದ ಹೊಲಗಳಿಗೆ ನೇರವಾಗಿ ನೀರಾವರಿ ಅನುಕೂಲ ಕಲ್ಪಿಸುತ್ತವೆ ಮತ್ತು ಮಣ್ಣಿನ ಸವೆತವನ್ನು ಹೆಚ್ಚಿಸುತ್ತವೆ



Q17 General Science **ENGLISH**

A car suddenly changes direction while moving at constant speed. Which aspect of inertia is being demonstrated, and how does the car's mass influence this effect?

- A.** The inertia of direction is demonstrated, and a car with greater mass will resist the change in direction more. ✓
- B.** The inertia of speed is demonstrated, and a lighter car resists direction change more.
- C.** Mass only affects speed, not direction, when a car turns.
- D.** The inertia of rest is demonstrated, and the car's mass does not affect direction changes.

Q18 General Science **ENGLISH**

Why are metals such as sodium and calcium extracted by electrolytic reduction instead of heating with carbon?

- A.** They exist only as molten chlorides in nature
- B.** They have greater affinity for oxygen than carbon. ✓
- C.** They decompose when heated with carbon
- D.** They form unstable oxides at high temperature

Q19 General Science

ಎರೆಗೊಬ್ಬರ ತಯಾರಿಸಲು ಬಳಸುವ ಪ್ರಮುಖ ವಸ್ತು ಯಾವುದು?

- A.** ಯೀಸ್ಟ್
- B.** ಎರೆಹುಳುಗಳು. ✓
- C.** ಬ್ಯಾಕ್ಟೀರಿಯಾ ಮತ್ತು ವೈರಸ್‌ಗಳು
- D.** ರಾಸಾಯನಿಕ ಗೊಬ್ಬರಗಳು

Q20 General Science

ಒಬ್ಬ ರೈತನು ಉತ್ತಮ ಖಾದ್ಯ ಗುಣಮಟ್ಟ ಮತ್ತು ಬರ ನಿರೋಧಕತೆಯುಳ್ಳ ಗೋಧಿಯನ್ನು ಬೆಳೆಯಲು ಬಯಸುತ್ತಾನೆ. ಹಾಗಾದರೆ ಗೋಧಿಯ ತಳಿ ಸುಧಾರಣೆ ಮಾಡುವಾಗ ಯಾವ ಎರಡು ಗುಣಲಕ್ಷಣಗಳನ್ನು ಪ್ರಮುಖ ಗುರಿಯಾಗಿಸಿಕೊಳ್ಳಬೇಕಿದೆ?

- A.** ವ್ಯಾಪಕ ಹೊಂದಾಣಿಕೆ ಸಾಮರ್ಥ್ಯ ಮತ್ತು ಜೈವಿಕ ರೋಧ ಗುಣ
- B.** ಹೆಚ್ಚಿನ ಇಳುವರಿ ಮತ್ತು ವ್ಯಾಪಕ ಹೊಂದಾಣಿಕೆ ಸಾಮರ್ಥ್ಯ
- C.** ಸುಧಾರಿತ ಗುಣಮಟ್ಟ ಮತ್ತು ಜೈವಿಕ ರೋಧ ಗುಣ
- D.** ಸುಧಾರಿತ ಗುಣಮಟ್ಟ ಮತ್ತು ಅಜೈವಿಕ ರೋಧ ಗುಣ. ✓

Q21 General Science

ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದನ್ನು ಸಾಮಾನ್ಯವಾಗಿ 'ಹೆಚ್ಚಿನ ಒತ್ತಡದಲ್ಲಿ ಸಂಗ್ರಹಿಸಲಾಗುತ್ತದೆ'?

- A.** NaCl. ✓
- B.** H₂
- C.** N₂
- D.** ಘನ CO₂

Q22 General Science **ENGLISH**

Which waste based difference between the renal artery and renal vein is directly related to excretory function?

- A.** The renal vein has higher pressure
- B.** The renal artery contains more urea. ✓
- C.** The renal vein contains more oxygen
- D.** The renal artery has more valves

Q23 General Science

ಒಬ್ಬ ವಿದ್ಯಾರ್ಥಿಯು ಹೇಳುವಂತೆ ಸಮಾನ ದ್ರವ್ಯರಾಶಿಯ ಎರಡು ಕಾರುಗಳಲ್ಲಿ, ಒಂದು ಕಾರು 40 km/h ವೇಗದಲ್ಲಿ ಚಲಿಸುತ್ತಿದೆ ಮತ್ತು ಇನ್ನೊಂದು ಕಾರು 80 km/h ವೇಗದಲ್ಲಿ ಚಲಿಸುತ್ತಿದೆ. ಈ ಎರಡೂ ಕಾರುಗಳ ಎಂಜಿನ್‌ಗಳು ಸಮಾನ ಪ್ರಮಾಣದ ಶಕ್ತಿಯನ್ನು ಒದಗಿಸುತ್ತಿರುವುದರಿಂದ ಚಲನ ಶಕ್ತಿಯು ಸಹ ಸಮಾನವಾಗಿದೆ. ಹಾಗಾದರೆ ಈ ತರ್ಕದಲ್ಲಿರುವ ದೋಷವೇನು?

- A.** ಎರಡೂ ಕಾರುಗಳು ಒಂದೇ ಅಳತೆಯ ದೂರವನ್ನು ಕ್ರಮಿಸುವುದರಿಂದ ಎರಡೂ ಕಾರುಗಳು ಸಮಾನವಾದ ಚಲನ ಶಕ್ತಿಯನ್ನು ಹೊಂದಿವೆ
- B.** ಎಂಜಿನ್‌ಗಳು ಒಂದೇ ರೀತಿಯದಾಗಿದ್ದರೆ ಕಾರುಗಳ ಸಾಮರ್ಥ್ಯ ಸಮಾನವಾಗಿರುತ್ತದೆ
- C.** ಚಲನ ಶಕ್ತಿಯು ಪೂರೈಸಲಾದ ಶಕ್ತಿಯನ್ನು ಮಾತ್ರವೇ ಅವಲಂಬಿಸಿರದೆ, ಜವದ ವರ್ಗವನ್ನು ಸಹ ಅವಲಂಬಿಸಿರುತ್ತದೆ. ✓
- D.** ಜವದ ಪ್ರಮಾಣ ಏನೇ ಇದ್ದರೂ, ಪೂರೈಕೆ ಮಾಡಲಾಗುವ ಶಕ್ತಿಯು ಸಾಮರ್ಥ್ಯವನ್ನು ನಿರ್ಧರಿಸುತ್ತದೆ

Q24 General Science **ENGLISH**

When using the sign convention for spherical mirrors, which direction along the principal axis is considered positive?

- A.** To the right of the origin (along + x-axis). ✓
- B.** Downwards from the principal axis
- C.** To the left of the origin (along - x-axis)
- D.** Upwards from the principal axis



Q25 General Science **ENGLISH**

How do rays parallel to the principal axis behave after reflection from a convex mirror?

- A.** They appear to diverge from a point on the principal axis. ☒
- B.** They pass through the centre of curvature.
- C.** They get reflected back along the same path.
- D.** They actually converge at the focus.

Q26 General Science **ENGLISH**

The fluid content inside the plasma membrane is named:

- A.** Genes
- B.** Chromosomes
- C.** Chromatin
- D.** Cytoplasm ☒

Q27 General Science

ನಮ್ಮ ಅಂಗೈಯ ಮೇಲೆ ಅಸಿಟೋನ್ ಅಥವಾ ಪೆಟ್ರೋಲ್ ಸುರಿದಾಗ ಅಂಗೈ ತಣ್ಣಗಾಗಲು ಕಾರಣವೇನು?

- A.** ದ್ರವವು ನಮ್ಮ ಚರ್ಮದ ಮೇಲ್ಮೈಯೊಂದಿಗೆ ರಾಸಾಯನಿಕವಾಗಿ ವರ್ತಿಸುತ್ತದೆ
- B.** ಈ ದ್ರವವು ಚರ್ಮದ ಮೇಲ್ಮೈಯಲ್ಲಿ ತೇವಾಂಶವನ್ನು ಹೆಚ್ಚಿಸುತ್ತದೆ
- C.** ದ್ರವವು ಸುತ್ತಮುತ್ತಲಿನಿಂದ ಶಾಖವು ಹರಿಯದಂತೆ ತಡೆಯುತ್ತದೆ
- D.** ದ್ರವವು ಚರ್ಮದಿಂದ ಶಾಖವನ್ನು ಹೀರಿಕೊಳ್ಳುತ್ತದೆ ಮತ್ತು ಆವಿಯಾಗುತ್ತದೆ ☒



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