



RRB JE 2024 CBT-1

Junior Engineer, DMS, CMA · CEN 03/2024 · CBT-1 · General Science · Question Paper

Kannada

All 9 Shifts (Sets) · General Science Section · Official Answer Key

About this Compilation

This booklet contains all **9 shift papers** of the **RRB JE 2024 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.

226 of these 244 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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Index — All Sets (click to open)

Set 1 16 Dec 2024 9:00 AM - 10:30 AM	Set 6 17 Dec 2024 4:30 PM - 6:00 PM
Set 2 16 Dec 2024 12:45 PM - 2:15 PM	Set 7 18 Dec 2024 9:00 AM - 10:30 AM
Set 3 16 Dec 2024 4:30 PM - 6:00 PM	Set 8 18 Dec 2024 12:45 PM - 2:15 PM
Set 4 17 Dec 2024 9:00 AM - 10:30 AM	Set 9 18 Dec 2024 4:30 PM - 6:00 PM
Set 5 17 Dec 2024 12:45 PM - 2:15 PM	

General Science

27 Questions • Answer Key

Q1 General Science

ಸಸ್ಯಗಳಲ್ಲಿ, ಕೇವಲ ತಾಯಿ ಸಸ್ಯವನ್ನು ಒಳಗೊಂಡ ಸಂತಾನೋತ್ಪತ್ತಿ ವಿಧಾನ ಯಾವುದು?

- A. ಪರಾಗಸ್ಪರ್ಶ ಕ್ರಿಯೆ
- B. ಲೈಂಗಿಕ ಸಂತಾನೋತ್ಪತ್ತಿ
- C. ಅಲೈಂಗಿಕ ಸಂತಾನೋತ್ಪತ್ತಿ ✓
- D. ಫಲೀಕರಣ (Fertilisation)

Q2 General Science

ಸ್ವಕೀಯ ಪರಾಗಸ್ಪರ್ಶ ಕ್ರಿಯೆಯು ಈ ಕೆಳಗಿನದರಲ್ಲಿ ಮಾತ್ರ ಸಾಧ್ಯವಾಗುತ್ತದೆ:

- A. ಕೇಸರ ಮತ್ತು ಶಲಾಕೆಗಳು ಒಂದೇ ಸಮಯದಲ್ಲಿ ಪಕ್ಷಗೊಳ್ಳುವ ದ್ವಿಲಿಂಗಿ ಹೂವುಗಳಲ್ಲಿ ✓
- B. ಕೇಸರ ಮತ್ತು ಶಲಾಕೆಗಳು ಬೇರೆ ಬೇರೆ ಸಮಯದಲ್ಲಿ ಪಕ್ಷಗೊಳ್ಳುವ ದ್ವಿಲಿಂಗಿ ಹೂವುಗಳಲ್ಲಿ
- C. ಕೇಸರವು ಮೊದಲಿಗೆ ಪಕ್ಷಗೊಳ್ಳುವ ಏಕಲಿಂಗಿ ಹೂವುಗಳಲ್ಲಿ
- D. ಶಲಾಕೆಯು ಮೊದಲಿಗೆ ಪಕ್ಷಗೊಳ್ಳುವ ಏಕಲಿಂಗಿ ಹೂವುಗಳಲ್ಲಿ

Q3 General Science ENGLISH

The power in a circuit having voltage V and current I during time interval t is:

- A. $(I \times t)/V$
- B. I/V
- C. $I \times V$ ✓
- D. V/I

Q4 General Science ENGLISH

In a parallel circuit, how does the voltage across each resistor compare to the total voltage supplied by the battery?

- A. It is inversely proportional to the resistance.
- B. It is zero.
- C. It is divided according to the resistance values.
- D. It is the same for each resistor. ✓

Q5 General Science

pH ಮಾಪಕದಲ್ಲಿ ಗಾಢ ನೀರಿ ಬಣ್ಣವು _____ ಅನ್ನು ಸೂಚಿಸುತ್ತದೆ.

- A. ಪ್ರಬಲ ಆಮ್ಲೀಯ ದ್ರಾವಣ
- B. ತರಸ್ಥ ದ್ರಾವಣ
- C. ದುರ್ಬಲ ಪ್ರತ್ಯಾಮ್ಲ ದ್ರಾವಣ ✓
- D. ಪ್ರಬಲ ಪ್ರತ್ಯಾಮ್ಲ ದ್ರಾವಣ

Q6 General Science ENGLISH

What is the relationship between current (I), power (P), and voltage (V)?

- A. $I = V \div P$
- B. $I = P \div V$ ✓
- C. $I = PV$
- D. $I = P2V$

Q7 General Science ENGLISH

Which of the following is the product of the neutralisation of hydrochloric acid (HCl) with sodium hydroxide ($NaOH$)?

- A. Sodium hydroxide and water
- B. Sodium chloride and water ✓
- C. Sodium chloride and hydrogen gas
- D. Sodium hydroxide and hydrochloric acid

Q8 General Science ENGLISH

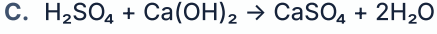
An emf is induced whenever there is a change in the magnetic field linked with electric circuits. This is stated by the:

- A. Gravitation law
- B. Faraday's law ✓
- C. Newton's law
- D. Ohm's law



Q9 General Science

ಈ ಕೆಳಗಿನ ಯಾವ ಕ್ರಿಯೆಯು ತಟಸ್ಥೀಕರಣ ಕ್ರಿಯೆಯನ್ನು ಪ್ರತಿನಿಧಿಸುವುದಿಲ್ಲ?

**Q10 General Science**

ಇಂಗಾಲದ ಯಾವ ಗುಣವು ದೊಡ್ಡದಾದ ಸರಪಳಿಗಳು ಮತ್ತು ಉಂಗುರಗಳನ್ನು ರೂಪಿಸಲು ಅನುವು ಮಾಡಿಕೊಡುತ್ತದೆ?

A. ಇತರ ಧಾತುಗಳೊಂದಿಗೆ ಸ್ಥಿರ ಬಂಧಗಳನ್ನು ರೂಪಿಸುವ ಸಾಮರ್ಥ್ಯ

B. ಸಹವೇಲಿನೀಯ ಬಂಧಗಳನ್ನು ರೂಪಿಸುವ ಸಾಮರ್ಥ್ಯ

C. ಏಕ ಬಂಧಗಳನ್ನು ರೂಪಿಸುವ ಪ್ರವೃತ್ತಿ

D. ಬಹು ಬಂಧಗಳನ್ನು ರೂಪಿಸುವ ಸಾಮರ್ಥ್ಯ ✓

Q11 General Science

ಮನೆಗಳಲ್ಲಿ ಅಳವಡಿಸುವ ವಿದ್ಯುತ್ ಮಂಡಲದಲ್ಲಿರುವ ವಿದ್ಯುತ್ ಪ್ಯೂಸ್‌ನ ಮುಖ್ಯ ಕಾರ್ಯವೇನು?

A. ವಿದ್ಯುತ್ ಹರಿವನ್ನು ಹೆಚ್ಚಿಸುವುದು

B. ವಿದ್ಯುತ್ ಮಂಡಲದಲ್ಲಿನ ರೋಧವನ್ನು ಕಡಿಮೆ ಮಾಡುವುದು

C. ಓವರ್ ಲೋಡಿಂಗ್ ಮತ್ತು ಶಾರ್ಟ್ ಸರ್ಕ್ಯೂಟ್‌ಗಳನ್ನು ತಡೆಗಟ್ಟುವುದು ✓

D. ವೋಲ್ಟೇಜ್ ಪೂರೈಕೆಯನ್ನು ನಿಯಂತ್ರಿಸುವುದು

Q12 General Science ENGLISH

What is the pH range of a strongly acidic solution?

A. 7-8

B. 10-11

C. 12-14

D. 0-3 ✓

Q13 General Science

ಒಂದು ವಿದ್ಯುತ್ ಸಾಧನವನ್ನು 180-V ವೋಲ್ಟೇಜ್ ಇರುವ ಒಂದು ವಿದ್ಯುತ್ ಮೂಲಕ್ಕೆ ಜೋಡಿಸಿದಾಗ ಅದು 1.75 A ವಿದ್ಯುತ್ ಅನ್ನು ಸೆಳೆದುಕೊಳ್ಳುತ್ತದೆ. ಹಾಗಾದರೆ ಈ ಸಾಧನದ ವಿದ್ಯುತ್ ರೇಟಿಂಗ್ ಎಷ್ಟು?

A. 315 W ✓

B. 440 W

C. 225 W

D. 105 W

Q14 General Science

ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುದು ಬೀಜಗಳ ಚದುರುವಿಕೆಯ ಕಾರಕ ಅಲ್ಲ?

A. ನೀರು

B. ಪ್ರಾಣಿ

C. ಗಾಳಿ

D. ಸೂರ್ಯನ ಬೆಳಕು ✓

Q15 General Science ENGLISH

What are regenerative cells used by Hydra for?

A. Hydra uses regenerative cells for reproduction by fragmentation.

B. Hydra uses regenerative cells for reproduction by sexual reproduction.

C. Hydra uses regenerative cells for reproduction by spore formation.

D. Hydra uses regenerative cells for reproduction by budding. ✓

Q16 General Science

ರೋಧಕಗಳ ಸರಣಿ ಸಂಯೋಜನೆಯಲ್ಲಿ, ಪ್ರತಿ ರೋಧಕಕ್ಕೆ ವೋಲ್ಟೇಜ್ ಅನ್ನು ಹೇಗೆ ಹಂಚಲಾಗುತ್ತದೆ?

A. ರೋಧಕ್ಕೆ ವಿಲೋಮಾನುಪಾತದಲ್ಲಿ

B. ರೋಧಕ್ಕೆ ನೇರಾನುಪಾತದಲ್ಲಿ ✓

C. ರೋಧದ ಮೌಲ್ಯಗಳು ಯಾವುದೇ ಪರಿಣಾಮ ಬೀರುವುದಿಲ್ಲ

D. ಎಲ್ಲಾ ರೋಧಕಗಳಲ್ಲಿ ಒಂದೇ ರೀತಿ

Q17 General Science

ಎಲೆಕ್ಟ್ರಿಕ್ ಮೋಟರಿನಲ್ಲಿರುವ ದಿಕ್ಪರಿವರ್ತಕವನ್ನು ಯಾವುದಕ್ಕೆ ಬಳಸಲಾಗುತ್ತದೆ ?

A. ಕಾಂತಕ್ಷೇತ್ರದ ದಿಕ್ಕನ್ನು ಬದಲಿಸಲು

B. ಮಂಡಲದಲ್ಲಿನ ಕಾಂತಕ್ಷೇತ್ರವನ್ನು ನಿರ್ವಹಿಸಲು

C. ಮಂಡಲದಲ್ಲಿ ವಿಭವಾಂತರವನ್ನು ನಿರ್ವಹಿಸಲು

D. ಸುರಳಿಯ ಮೂಲಕ ಹರಿಯುವ ವಿದ್ಯುತ್ ಪ್ರವಾಹದ ದಿಕ್ಕನ್ನು ಹಿಮ್ಮುಖಗೊಳಿಸಲು ✓



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Q18 General Science

ವಿದ್ಯುತ್ ಮೋಟರ್‌ನಲ್ಲಿ ವಿದ್ಯುತ್ ಪ್ರವಹಿಸುವ ವಾಹಕದ ಮೇಲಿನ ಬಲದ ದಿಕ್ಕನ್ನು ನಿರ್ಧರಿಸಲು ಈ ಕೆಳಗಿನ ಯಾವ ನಿಯಮವನ್ನು ಬಳಸಲಾಗುತ್ತದೆ?

- A. ಆಂಪಿಯರ್ ನಿಯಮ
- B. ಬಲಗೈ ಹೆಬ್ಬರಳ ನಿಯಮ
- C. ಫ್ಲೆಮಿಂಗನ ಬಲಗೈ ನಿಯಮ
- D. ಫ್ಲೆಮಿಂಗನ ಎಡಗೈ ನಿಯಮ ✓

Q19 General Science

ಕುಡಿಯುವ ನೀರಿನಲ್ಲಿ ರೋಗಾಣು ನಾಶಮಾಡಲು ಬ್ಲೀಚಿಂಗ್ ಪೌಡರ್ ಅನ್ನು ಏಕೆ ಬಳಸಲಾಗುತ್ತದೆ?

- A. ಇದು ನೀರಿನ ಗಡಸುತನವನ್ನು ಕಡಿಮೆ ಮಾಡುತ್ತದೆ.
- B. ಇದು ಆಮ್ಲೀಯ ಮಾಧ್ಯಮವನ್ನು ಒದಗಿಸುತ್ತದೆ.
- C. ಇದು ಕ್ಲೋರಿನ್ ಅನ್ನು ಬಿಡುಗಡೆ ಮಾಡುತ್ತದೆ ಹಾಗೂ ಅದು ರೋಗಾಣು ಕ್ರಿಮಿಗಳನ್ನು ಕೊಲ್ಲುತ್ತದೆ. ✓
- D. ಇದು ನೀರನ್ನು ತಟಸ್ಥಗೊಳಿಸುತ್ತದೆ.

Q20 General Science

ಮಾನವರಲ್ಲಿ ಮಗುವಿನ ಲಿಂಗವನ್ನು ಯಾವುದು ನಿರ್ಧರಿಸುತ್ತದೆ?

- A. ಆನುವಂಶಿಕ ರಚನೆ ✓
- B. ಫಲೀಕರಣ ಹೊಂದಿದ ಮೊಟ್ಟೆಗಳನ್ನು ಇಟ್ಟಿರುವ ಜಾಗದ ತಾಪಮಾನ
- C. ಭ್ರೂಣದ ಹಣೆಬರಹ
- D. ಪರಿಸರ ಸೂಚನೆಗಳು

Q21 General Science

ಒಂದು ವೇಳೆ ಒಂದು ಮಗುವು ತಂದೆಯಿಂದ Y ಕ್ರೋಮೋಸೋಮ್ ಅನ್ನು ಆನುವಂಶಿಕವಾಗಿ ಪಡೆದರೆ, ಮಗುವಿನ ಲಿಂಗ ಯಾವುದು?

- A. ಉಭಯಲಿಂಗಿ
- B. ಹೆಣ್ಣು
- C. ನಿರ್ಧರಿಸಲು ಸಾಧ್ಯವಿಲ್ಲ
- D. ಗಂಡು ✓

Q22 General Science ENGLISH

What is the process by which sodium hydroxide is prepared?

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

Q23 General Science

ವಿದ್ಯುತ್ ಸಾಗಿಸುತ್ತಿರುವ ಉದ್ದನೆಯ, ನೇರ ಸೋಲೆನಾಯ್ಡ್ ನ ಒಳಗಿನ ಕಾಂತ ಕ್ಷೇತ್ರವು _____ ಆಗಿರುತ್ತದೆ.

- A. ಶೂನ್ಯ
- B. ಏಕರೂಪ ಮತ್ತು ಸೋಲೆನಾಯ್ಡ್ ನ ಅಕ್ಷಕ್ಕೆ ಸಮಾಂತರ ✓
- C. ವಿದ್ಯುತ್ಪ್ರವಾಹಕ್ಕೆ ವಿಲೋಮ ಅನುಪಾತ
- D. ತುದಿಗಳ ಪಕ್ಕದಲ್ಲಿ ಪ್ರಬಲ

Q24 General Science

ಸೋಲ್ವೆ ಪ್ರಕ್ರಿಯೆಯಲ್ಲಿ ವಾಷಿಂಗ್ ಸೋಡಾವನ್ನು ($\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$) ಯಾವ ಸಂಯುಕ್ತದಿಂದ ಪಡೆಯಲಾಗುತ್ತದೆ?

- A. ಸೋಡಿಯಂ ಸಲ್ಫೇಟ್
- B. ಸೋಡಿಯಂ ಕ್ಲೋರೈಡ್
- C. ಸೋಡಿಯಂ ಬೈಕಾರ್ಬೋನೇಟ್ ✓
- D. ಸೋಡಿಯಂ ಹೈಡ್ರಾಕ್ಸೈಡ್

Q25 General Science

ಈ ಕೆಳಗಿನ ಯಾವ ವೈರಾಣು ಸೋಂಕು ಲೈಂಗಿಕ ಸಂಪರ್ಕದ ಮೂಲಕ ಹರಡುತ್ತದೆ?

- A. ಸಿಫಿಲಿಸ್
- B. ಎಚ್.ಐ.ವಿ - ಏಡ್ಸ್ ✓
- C. ಕ್ಷಯ
- D. ಗೊನೋರಿಯಾ

Q26 General Science ENGLISH

Which of the following reactions represents the combustion of methane?

- A. $\text{CH}_4 + \text{Cl}_2 \rightarrow \text{CH}_3\text{Cl} + \text{HCl}$
- B. $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO} + \text{H}_2\text{O}$
- C. $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$ ✓
- D. $\text{CH}_4 + \text{H}_2\text{O} \rightarrow \text{CO} + \text{H}_2$



Q27 General Science

ಉತ್ಕರ್ಷಣದ ಸಂದರ್ಭದಲ್ಲಿ, ಬೆಳ್ಳಿಯು ತನ್ನ ಬಣ್ಣವನ್ನು _____ ಬಣ್ಣಕ್ಕೆ ಬದಲಾಯಿಸುತ್ತದೆ ಮತ್ತು ತಾಮ್ರವು ತನ್ನ ಬಣ್ಣವನ್ನು _____ ಬಣ್ಣಕ್ಕೆ ಬದಲಾಯಿಸುತ್ತದೆ.

A. ಕಪ್ಪು; ಹಸಿರು



B. ಬೂದು; ನೀಲಿ

C. ಕಪ್ಪು; ನೀಲಿ

D. ಬೂದು; ಹಸಿರು

Blackbook



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General Science

20 Questions • Answer Key

Q1 General Science ENGLISH

An electric motor converts electrical energy into:

- A. electron energy
- B. magnetic energy
- C. mechanical energy ✓
- D. nuclear energy

Q2 General Science ENGLISH

Consider a conductor in the plane of the paper with current going from bottom to the top. What will be the direction of the magnetic field lines to the left of the conductor?

- A. Perpendicular to the plane of the paper and going in.
- B. Opposite to the direction of the current.
- C. In the direction of the current.
- D. Perpendicular to the plane of the paper and coming out. ✓

Q3 General Science ENGLISH

Which ion reduces at the cathode during electrolysis of fresh brine solution?

- A. Na^+
- B. OH^-
- C. H^+ ✓
- D. Cl^-

Q4 General Science ENGLISH

Which metal is placed at the top of the reactivity series?

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

Q5 General Science ENGLISH

Which of the following best describes why ionic compounds like potassium bromide (KBr) do NOT conduct electricity in solid form but do in molten form?

- A. Solid KBr consists of neutral atoms with no free electrons.
- B. Solid KBr has weak ions that do not conduct electricity.
- C. Ionic bonds prevent ion movement in solid KBr. ✓
- D. In molten form, KBr decomposes into gaseous atoms.

Q6 General Science ENGLISH

What industrial method is most typically used to produce sodium hydroxide (NaOH)?

- A. Electrolysis of brine ✓
- B. Castner-Kellner process
- C. Contact process
- D. Haber process

Q7 General Science ENGLISH

Which of the following options represents the correct Lewis structure for methane (CH_4)?

- A. A carbon atom bonded to two hydrogen atoms with double bonds
- B. A carbon atom bonded to four hydrogen atoms with single bonds ✓
- C. A carbon atom bonded to one hydrogen atom with a double bond
- D. A carbon atom bonded to four hydrogen atoms with triple bonds

Q8 General Science ENGLISH

If a conductor follows the Ohm's law, then the graph between current and voltage will be a/an _____.

- A. ellipse
- B. hyperbola
- C. parabola
- D. straight line ✓



Q9 General Science **ENGLISH**

A wire has a resistance of R . If its length is increased by a factor of 8 and its cross-sectional area is decreased by a factor of 4, what is its new resistance (R')?

- A. $R' = 2 R$
- B. $R' = 8 R$
- C. $R' = 32 R$ ✓
- D. $R' = 16 R$

Q10 General Science **ENGLISH**

What is formed when ammonium dichromate is heated?

- A. Chromium oxide and water
- B. Chromium and oxygen
- C. Chromium oxide and nitrogen
- D. Nitrogen, oxygen and chromium oxide ✓

Q11 General Science **ENGLISH**

Combination reaction can be represented as:

- A. $AB + C \rightarrow ABC$ ✓
- B. $ABC \rightarrow AB + C$
- C. $AB + CD \rightarrow AD + CD$
- D. $AB + C \rightarrow CB + A$

Q12 General Science **ENGLISH**

What is the pH value of pure water at 25°C ?

- A. 7 ✓
- B. 5
- C. 3
- D. 1

Q13 General Science **ENGLISH**

If a resistor of $15\ \Omega$ carries a current of $2.5\ \text{A}$ for 12 seconds, the heat produced is ____ joules.

- A. 900
- B. 1125 ✓
- C. 1800
- D. 450

Q14 General Science **ENGLISH**

A conductor has a current of $150\ \text{mA}$ flowing through it with a resistance of $0.8\ \Omega$. Find the potential difference across the conductor.

- A. $120\ \text{V}$
- B. $0.12\ \text{V}$ ✓
- C. $18.75\ \text{V}$
- D. $5.3\ \text{V}$

Q15 General Science **ENGLISH**

If a wire is stretched to quadruple its length without changing its area, what will happen to its resistivity?

- A. It remains the same. ✓
- B. It doubles.
- C. It halves.
- D. It quadruples.

Q16 General Science **ENGLISH**

Which of the following is the correct definition of a homologous series?

- A. A series of compounds having different functional groups
- B. A series of compounds having the same functional group and similar chemical properties ✓
- C. A series of compounds having identical physical properties
- D. A series of compounds with the same molecular mass

Q17 General Science **ENGLISH**

What do the magnetic field lines around a bar magnet represent?

- A. The gravitational field
- B. The flow of air around the magnet
- C. The direction and strength of the magnetic field ✓
- D. The movement of electrons around the magnet



Q18 General Science **ENGLISH**

The Fleming's right hand rule is used to find the:

- A. direction of the magnetic field associated with a current carrying conductor
- B. direction of the gravitational field
- C. direction of the current of a current carrying conductor ☒
- D. direction of the motion of the current carrying conductor

Q19 General Science **ENGLISH**

In a redox reaction, reduction can be described as:

- A. loss of electrons
- B. addition of an electronegative element
- C. addition of oxygen
- D. addition of hydrogen ☒

Q20 General Science **ENGLISH**

The potential difference, V , across the ends of a given metallic wire in an electric circuit is directly proportional to the current flowing through it, provided its temperature remains the same. This is known as:

- A. Ohm's law ☒
- B. Ampere's law
- C. Newton's law
- D. Resistance law



General Science

30 Questions • Answer Key

Q1 General Science ENGLISH

Covalent molecules have low melting and boiling point because:

- A. they have weak intermolecular forces ✓
- B. they have strong electrostatic intermolecular forces
- C. they have strong bonds within the molecule
- D. they are generally gaseous in nature

Q2 General Science ENGLISH

Which of the following is the correct formula for the first member of the alkene series?

- A. C_2H_4 ✓
- B. C_4H_8
- C. C_3H_6
- D. C_5H_{10}

Q3 General Science ENGLISH

Which of the following metals is least likely to corrode in moist air?

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

Q4 General Science ENGLISH

Which of the following is true regarding the bud development process in Hydra?

- A. Formation of spore
- B. Splitting of cytoplasm
- C. Cell divisions at one site ✓
- D. Splitting of nucleus

Q5 General Science ENGLISH

What is the thread-like structure in Rhizopus?

- A. Blobs
- B. Sporangia
- C. Spores
- D. Hyphae ✓

Q6 General Science ENGLISH

Which of the following best describes a combination reaction?

- A. A reaction where a product releases gas
- B. A compound breaks down into simpler substances
- C. Ions exchange between two compounds
- D. Two elements combine to form a compound ✓

Q7 General Science ENGLISH

If two resistors in series are equal, say R each, what is the total resistance?

- A. R
- B. R^2
- C. $R/2$
- D. $2R$ ✓

Q8 General Science ENGLISH

After fertilisation, the zygote divides multiple times to form which structure within the ovule?

- A. Fruit
- B. Seed
- C. Style
- D. Embryo ✓



Q9 General Science **ENGLISH**

In plants, spore formation is a mode of reproduction that involves the production of spores. Which of the following statements about spore formation is true?

- A. Spores are formed through sexual reproduction in plants.
- B. Spores are produced by non-flowering plants like ferns and mosses, and they grow into new plants. ✓
- C. Spores are a form of vegetative propagation in angiosperms only.
- D. Spores are produced by flowers, and they grow into seeds.

Q10 General Science **ENGLISH**

What is the final product of sexual reproduction in plants?

- A. Flowers
- B. Seeds ✓
- C. Fruits
- D. Leaves

Q11 General Science **ENGLISH**

The knowledge of which two subjects played key role in formulating laws of Inheritance?

- A. Geography and Philosophy
- B. Maths and Science ✓
- C. Philosophy and Science
- D. Maths and History

Q12 General Science **ENGLISH**

What is the role of the stigma in the process of fertilisation?

- A. Developing into a seed
- B. Fusing with the egg cell
- C. Serving as the site where pollen lands ✓
- D. Producing pollen

Q13 General Science **ENGLISH**

Double displacement reactions usually occur in:

- A. gaseous state
- B. solid state
- C. all three states
- D. aqueous solution ✓

Q14 General Science **ENGLISH**

Why does a compass needle get deflected when brought near a bar magnet?

- A. The compass needle is non-magnetic.
- B. The compass needle is a small bar magnet. ✓
- C. The compass needle is made of iron.
- D. The compass needle has electric charge.

Q15 General Science **ENGLISH**

Which of the following is called a motile germ cell?

- A. Female gamete
- B. Male gamete ✓
- C. Embryo
- D. Zygote

Q16 General Science **ENGLISH**

Which of the following helps a developing embryo to expel waste products in case of humans?

- A. Oviduct
- B. Placenta ✓
- C. Ovary
- D. Cervix

Q17 General Science **ENGLISH**

Why might surgical family planning methods be risky if not done correctly?

- A. They can increase fertility.
- B. They may cause hormonal side effects.
- C. They might prevent ovulation.
- D. They can lead to infections or complications. ✓



Q18 General Science **ENGLISH**

In the reaction $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$, what is being reduced?

- A. Hydrogen (H)
- B. Oxygen (O)
- C. Manganese (Mn) ✓
- D. Chlorine (Cl)

Q19 General Science **ENGLISH**

Which of the following chemical equations is balanced?

- A. $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$ ✓
- B. $\text{H}_2\text{O} + \text{O}_2 \rightarrow \text{H}_2\text{O}_2$
- C. $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$
- D. $\text{H}_2 + 2\text{O}_2 \rightarrow 2\text{H}_2\text{O}$

Q20 General Science **ENGLISH**

When an atom of sodium reacts with an atom of chlorine to form sodium chloride, each sodium atom:

- A. loses one electron ✓
- B. loses one proton
- C. gains one electron
- D. gains one proton

Q21 General Science **ENGLISH**

Resistance is the property of a material that _____.

- A. converts electrical energy to mechanical energy
- B. generates electricity
- C. opposes the flow of current ✓
- D. allows the flow of current

Q22 General Science **ENGLISH**

Which of the following statements is true about the pH of a neutral solution at 25°C?

- A. The pH is greater than 7.
- B. The pH is less than 7.
- C. The pH is not equal to 7.
- D. The pH is equal to 7. ✓

Q23 General Science **ENGLISH**

In the case of a thin lens, how are the centres of curvature typically positioned relative to the optical centre?

- A. They are equidistant from the optical centre. ✓
- B. They are closer to the edge than to the optical centre.
- C. They coincide with the optical centre.
- D. They are located on the lens surface itself.

Q24 General Science **ENGLISH**

In which of the following scenarios does the focal length of a concave mirror vary?

- A. When placed in water
- B. When placed in air
- C. Focal length does not vary in any media ✓
- D. When placed in a vacuum

Q25 General Science **ENGLISH**

Which of the following reactions leads to the production of bleaching powder?

- A. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2$
- B. $\text{Ca(OH)}_2 + \text{Cl}_2 \rightarrow \text{CaOCl}_2 + \text{H}_2\text{O}$ ✓
- C. $\text{CaCO}_3 + \text{HCl} \rightarrow \text{CaCl}_2 + \text{CO}_2 + \text{H}_2\text{O}$
- D. $\text{Ca(OH)}_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$

Q26 General Science **ENGLISH**

The current through a resistor is:

- A. inversely proportional to the resistance ✓
- B. directly proportional to the resistance
- C. proportional to the square of the resistance
- D. proportional to the square root of the resistance



Q27 General Science **ENGLISH**

In which case will a lens produce a magnification of exactly 1?

- A. When the object is placed between centre of curvature and focal point
- B. When the object is at infinity
- C. When the object is placed at the focal point
- D. When the object is placed at twice the focal length ✓

Q28 General Science **ENGLISH**

Which of the following factors directly affects the resistance of a conductor?

- A. Power of the conductor
- B. Current through the conductor
- C. Length of the conductor ✓
- D. Voltage across the conductor

Q29 General Science **ENGLISH**

Which factor does NOT affect the electric power consumed by an electric device?

- A. Frequency of the device ✓
- B. Resistance of the device
- C. Voltage applied to the device
- D. Current passing through the device

Q30 General Science **ENGLISH**

When light exits a prism, what is the result of its interaction with the prism surfaces?

- A. Light is only absorbed.
- B. Light is only reflected.
- C. Light passes through without any change.
- D. Light is refracted. ✓



General Science

30 Questions • Answer Key

Q1 General Science ENGLISH

Samples of four metals A, B, C and D were taken and added to a solution individually. The results obtained have been listed as follows.

- A can displace B from its solution
- B can displace D from its solution
- C can displace D from its solution
- C can displace A from its solution

Which is the most reactive metal?

A. D

B. C

C. A

D. B

Q2 General Science ENGLISH

The pattern of the magnetic field lines of a solenoid is similar to that of a:

A. ring magnet

B. bar magnet

C. horseshoe magnet

D. button magnet

Q3 General Science ENGLISH

When several resistors are joined in series, the equivalent resistance of the combination is:

A. greater than the sum of the individual resistances

B. equal to the product of the individual resistances

C. equal to the sum of the individual resistances

D. less than the sum of the individual resistances

Q4 General Science ENGLISH

What is the role of the ovary in the process of fertilisation in plants?

A. To produce pollen

B. To produce the egg cell

C. To store the male gametes

D. To provide nutrients to the pollen grains

Q5 General Science ENGLISH

Mendel had selected garden pea for certain favourable reasons. Which of the following is NOT a reason for his choice required for his experiments?

A. They have easily observable traits.

B. They can be self-pollinated and cross-pollinated.

C. They have a long generation time.

D. They produce many offsprings.

Q6 General Science ENGLISH

Which combination of factors would result in the lowest resistance for a conductor?

A. Short length and large cross-sectional area

B. Short length and small cross-sectional area

C. Long length and small cross-sectional area

D. Long length and large cross-sectional area

Q7 General Science ENGLISH

Seeds that are dispersed by animals often:

A. have hooks or edible flesh

B. have wings or parachutes

C. can float easily in water

D. are very small and light weight

Q8 General Science ENGLISH

In the process of vegetative propagation, which part of the plant is used in grafting?

A. Leaf

B. Stem

C. Root

D. Seed



Q9 General Science **ENGLISH**

How do hormonal contraceptives prevent pregnancy?

- A. By creating a physical barrier
- B. By increasing sperm production
- C. By blocking the fallopian tubes
- D. By changing the hormonal balance to prevent egg release ✓

Q10 General Science **ENGLISH**

In the reaction: $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$, what happens to zinc?

- A. Zinc is oxidised. ✓
- B. Zinc does not change.
- C. Zinc loses electrons.
- D. Zinc is reduced.

Q11 General Science **ENGLISH**

In which process multicellular organisms break into smaller pieces upon maturation?

- A. Sporulation
- B. Fission
- C. Regeneration
- D. Fragmentation ✓

Q12 General Science **ENGLISH**

Which of the following describes the relationship between the aperture of a lens and its radius of curvature in the context of thin lenses?

- A. The aperture equals the radius of curvature.
- B. The aperture is much larger than the radius of curvature.
- C. The aperture is independent of the radius of curvature.
- D. The aperture is much smaller than the radius of curvature. ✓

Q13 General Science **ENGLISH**

The balanced equation which shows the decomposition of hydrogen peroxide is:

- A. $2\text{H}_2\text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{O}_2$ ✓
- B. $2\text{HO}_2 \rightarrow 2\text{HO} + \text{O}_2$
- C. $\text{H}_2\text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{O}_2$
- D. $\text{H}_2\text{O}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2$

Q14 General Science **ENGLISH**

What is formed when sodium sulfate reacts with barium chloride in a double displacement reaction?

- A. Sodium chloride and barium hydroxide
- B. Sodium hydroxide and barium chloride
- C. Sodium sulfate and barium chloride
- D. Sodium chloride and barium sulfate ✓

Q15 General Science **ENGLISH**

A piece of zinc is placed in three different solutions: lead nitrate, aluminium sulphate and silver nitrate. Which solution(s) will zinc be able to displace the metal from its solution?

- A. Aluminium sulphate and silver nitrate
- B. Lead nitrate and aluminium sulphate
- C. Lead nitrate and silver nitrate ✓
- D. Only silver nitrate

Q16 General Science **ENGLISH**

Which of the following statements is true for a balanced chemical equation?

- A. The total mass of molecules is unequal on both sides.
- B. The total number of moles is the same on both sides.
- C. The total number of atoms of each element is the same on both sides. ✓
- D. The total number of molecules is the same on both sides.



Q17 General Science **ENGLISH**

Pollen grains are transferred to which part of pistil?

- A. Style
- B. Ovule
- C. Stigma
- D. Ovary



Q18 General Science **ENGLISH**

Which of the following best describes a common industrial use of washing soda?

- A. Cement production
- B. Fertiliser manufacturing
- C. Vinegar production
- D. Glass manufacturing



Q19 General Science **ENGLISH**

Why are danger signals typically red in colour?

- A. Red light is more reflective than other colours.
- B. Red light has a longer wavelength and is scattered the least, making it visible from a distance.
- C. Red light is easier to produce artificially.
- D. The colour red is aesthetically pleasing.



Q20 General Science **ENGLISH**

Which of the following statements is NOT a reason for the versatile nature of carbon?

- A. Carbon has tetravalency
- B. Carbon can form single, double, and triple bonds
- C. Carbon can form ionic bonds with itself
- D. Carbon exhibits catenation



Q21 General Science **ENGLISH**

An object is placed 12 cm in front of a convex mirror with a focal length of 8 cm. What is the image distance (v)?

- A. -20 cm
- B. -4.8 cm
- C. +20 cm
- D. +4.8 cm



Q22 General Science **ENGLISH**

Suppose a gardener wants to plant pea which should be of the dwarf varieties. What do you suggest for the choice of the parent plant seeds by the gardener?

- A. Any kind of seed can be used.
- B. All seeds should be of mixed varieties.
- C. All seeds should be of tall varieties.
- D. All seeds should be of dwarf varieties.



Q23 General Science **ENGLISH**

An electric fan is connected to a 220 V generator. The current is 0.50 A. What is the power used by the fan?

- A. 440 Watt
- B. 11 Watt
- C. 220 Watt
- D. 110 Watt



Q24 General Science **ENGLISH**

Which of the following statements is true about the physical properties of compounds in a homologous series?

- A. Their physical properties do not change.
- B. Their boiling points decrease as the number of carbon atoms increase.
- C. They have a regular change in melting and boiling points.
- D. They have identical melting and boiling points.



Q25 General Science **ENGLISH**

What are the two versions of a gene controlling a trait called?

- A. Chromosomes
- B. Proteins
- C. Alleles
- D. Mutations



Q26 General Science **ENGLISH**

20 ml of NaOH is neutralised by 10 ml of HNO_3 . How much NaOH will be required to neutralise 15 ml of HNO_3 ?

A. 25 ml

B. 30 ml



C. 20 ml

D. 40 ml

Q27 General Science **ENGLISH**

The first fundamental factor for evolution is:

A. genetic variation



B. healthy offsprings

C. competition among individuals

D. cell division for growth

Q28 General Science **ENGLISH**

If an image is formed by a spherical mirror with a magnification of +1, which of the following statements is true?

A. The image is real and equal in size to the object.

B. The image is real and twice the size of the object.

C. The image is virtual and equal in size to the object.



D. The image is virtual and half the size of the object.

Q29 General Science **ENGLISH**

Which of these is NOT a property of magnetic field lines?

A. They travel from south to north inside the magnet.

B. They never intersect.

C. They repel each other.



D. They are continuous closed loops.

Q30 General Science **ENGLISH**

Equipment such as geysers and air conditioners, compared to light bulbs and fans, require:

A. less power

B. less voltage

C. higher voltage

D. higher power



General Science

29 Questions • Answer Key

Q1 General Science ENGLISH

If the resistance in a circuit is increased while the voltage remains constant, the current will _____.

- A. decrease ✓
- B. remain constant
- C. double
- D. increase

Q2 General Science ENGLISH

In surgical procedures for contraception in males, sperm transfer gets prevented if which of the following is blocked?

- A. Testes
- B. Fallopian tubes
- C. Vas deferens ✓
- D. Ovary

Q3 General Science ENGLISH

When a metal and sulphuric acid react with each other, metal displaces hydrogen, which is higher in the reactivity series. Identify the metal for which the bubbling of hydrogen gas will be the fastest.

- A. Zinc
- B. Magnesium ✓
- C. Iron
- D. Aluminium

Q4 General Science ENGLISH

The special reproductive structures in fungi like Rhizopus, which germinate to form new individuals, are called:

- A. Pollens
- B. Spores ✓
- C. Anthers
- D. Gemmules

Q5 General Science ENGLISH

The magnetic field lines of a bar magnet may NOT be drawn using:

- A. a magnetic compass
- B. another bar magnet
- C. wood particles ✓
- D. iron filings

Q6 General Science ENGLISH

What are the number of chromosomes in a human male germ cell?

- A. 23 Chromosomes ✓
- B. 46 Chromosomes
- C. 46 pairs of Chromosomes
- D. 23 pairs of Chromosomes

Q7 General Science ENGLISH

Which of the following diseases can be prevented by using a mechanical barrier contraceptive method?

- A. AIDS ✓
- B. Typhoid
- C. TB
- D. Malaria

Q8 General Science ENGLISH

Mendel studied traits such as flower colour and seed shape in pea plants. These traits are called as:

- A. progeny units
- B. dominant characteristics
- C. visible characters ✓
- D. genetic codes



Q9 General Science **ENGLISH**

What is the molecular formula of washing soda?

- A. NaCl
- B. NaHCO_3
- C. Na_2CO_3
- D. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ ✓

Q10 General Science **ENGLISH**

If the object is placed beyond the center of curvature (C) in front of a concave mirror, the image formed will be _____.

- A. real, inverted and enlarged
- B. virtual, upright and enlarged
- C. virtual, upright and diminished
- D. real, inverted and diminished ✓

Q11 General Science **ENGLISH**

A double displacement reaction typically involves the exchange of:

- A. ions ✓
- B. protons
- C. electrons
- D. neutrons

Q12 General Science **ENGLISH**

The number of $176\text{-}\Omega$ resistors (in parallel) required to carry 5 A on a 220-V line is:

- A. 8
- B. 4 ✓
- C. 16
- D. 2

Q13 General Science **ENGLISH**

What is the result when sodium chloride and silver nitrate are mixed in a double displacement reaction?

- A. Formation of a precipitate ✓
- B. Formation of a salt
- C. Formation of a gas
- D. Formation of water

Q14 General Science **ENGLISH**

Which of the following is true for a balanced chemical equation?

- A. The number of molecules on each side is always equal.
- B. The products have more atoms than the reactants.
- C. The mass of reactants is always greater than the mass of products.
- D. The total number of atoms for each element is the same on both sides of the equation. ✓

Q15 General Science **ENGLISH**

Besides being a barrier method of contraception, condoms also serve which of the following purposes?

- A. Prevent transmission of STDs such as gonorrhoea ✓
- B. Decrease sexual desire
- C. Prevent diseases that spread through skin-to-skin contact
- D. Help in transmission of STDs such as gonorrhoea

Q16 General Science **ENGLISH**

Which electrical appliance helps preserve food by maintaining low temperatures?

- A. Electric kettle
- B. Toaster
- C. Microwave
- D. Refrigerator ✓

Q17 General Science **ENGLISH**

If the refractive index of water is 1.33, then the speed of light in water is approximately _____.

- A. $5 \times 10^8 \text{ m/s}$
- B. $26 \times 10^8 \text{ m/s}$ ✓
- C. $4 \times 10^8 \text{ m/s}$
- D. $3 \times 10^8 \text{ m/s}$



Q18 General Science **ENGLISH**

What is the pH of a solution containing significant concentrations of H^+ ions?

- A. Greater than 7
- B. Less than 7
- C. Cannot be determined
- D. 7

Q19 General Science **ENGLISH**

Which of the following statements is true regarding the refractive index?

- A. Refractive index of glass is less than 1.
- B. Refractive index of a given medium is independent of the wavelength of the light.
- C. Refractive index depends only on the speed of light in vacuum.
- D. Refractive index of water is always greater than 1.

Q20 General Science **ENGLISH**

Which of the following statements is correct regarding magnets?

- A. A magnet can have either north or south pole.
- B. A magnet can attract an electron.
- C. A magnet is a dipole with north and south poles.
- D. A magnet produces magnetic as well as electric fields.

Q21 General Science **ENGLISH**

Which of the following is a primary reason why all multi-cellular organisms do not reproduce by fragmentation?

- A. Their cells are loosely organised.
- B. They have a random arrangement of cells.
- C. They are unicellular.
- D. They have specialised cells organised into tissues and organs.

Q22 General Science **ENGLISH**

Which of the following statements best describes what happens in a double displacement reaction?

- A. Two elements combine to form a compound.
- B. Electrons are transferred between atoms.
- C. A compound breaks down into simpler substances.
- D. Ions in two compounds switch places to form two new compounds.

Q23 General Science **ENGLISH**

Which of the following is NOT a homologous series?

- A. C_2H_2 , C_2H_4 , C_3H_6 , C_4H_8
- B. C_3H_7OH , C_4H_9OH , $C_5H_{11}OH$, $C_6H_{11}OH$
- C. CH_4 , C_2H_6 , C_3H_8 , C_4H_{10}
- D. C_2H_4 , C_2H_6 , C_3H_6 , C_4H_8

Q24 General Science **ENGLISH**

What develops into fruit after fertilisation?

- A. Anther
- B. Style
- C. Ovary
- D. Stigma

Q25 General Science **ENGLISH**

Which of the following is true about asexual reproduction?

- A. It results in offspring genetically identical to the parent.
- B. It requires fertilisation.
- C. It involves two parent organisms.
- D. It requires complex reproductive organs.



Q26 General Science **ENGLISH**

A wire of given material having length L and area of cross-section A has a resistance of $4\ \Omega$. The resistance of another wire of the same material having length $L/2$ will be:

A. $1\ \Omega$

B. $8\ \Omega$

C. $4\ \Omega$

D. $2\ \Omega$ ✓

Q27 General Science **ENGLISH**

What is the difference between baking powder and baking soda?

A. Baking powder is a mixture of baking soda and hydrochloric acid.

B. Baking powder is a mixture of baking soda and tartaric acid. ✓

C. Baking soda is a mixture of baking powder and hydrochloric acid.

D. Baking soda is a mixture of baking powder and tartaric acid.

Q28 General Science **ENGLISH**

Which of the following statements about AIDS is FALSE?

A. AIDS affects the immune system of the body.

B. AIDS is caused by the HIV virus.

C. AIDS can be prevented by practising safe sex.

D. AIDS can be transmitted through mosquito bites. ✓

Q29 General Science **ENGLISH**

For a concave mirror, where is the centre of curvature located relative to the mirror?

A. Behind the mirror

B. At the mirror's surface

C. At the mirror's focal point

D. In front of the mirror ✓



General Science

29 Questions • Answer Key

Q1 General Science ENGLISH

As the concentration of hydronium ions increases, the pH value _____.

- A. increases
- B. decreases ✓
- C. decreases and then increases
- D. remains the same

Q2 General Science ENGLISH

Oxidation of metals in the presence of acids or moisture is called:

- A. neutralisation
- B. corrosion ✓
- C. rancidity
- D. rusting

Q3 General Science ENGLISH

Leishmania reproduces by:

- A. binary fission in two equal halves
- B. binary fission in only vertical planes
- C. binary fission in any plane
- D. binary fission in a definite plane ✓

Q4 General Science ENGLISH

If the resistance of a conductor is doubled while the current remains the same, how will the heat produced per unit time change?

- A. It will double. ✓
- B. It will quadruple.
- C. It will be halved.
- D. It will remain the same.

Q5 General Science ENGLISH

Yeast reproduces through which asexual mode of reproduction?

- A. Fusion
- B. Vegetative propagation
- C. Fission
- D. Budding ✓

Q6 General Science ENGLISH

What is the role of chlorine gas in the preparation of bleaching powder?

- A. It is used as a catalyst for the reaction.
- B. It is used to neutralise calcium hydroxide.
- C. It reacts with water to produce hydrogen peroxide.
- D. It reacts with dry slaked lime to form bleaching powder. ✓

Q7 General Science ENGLISH

Contraception is one of the main goals of which health care programme?

- A. Indradhanush Immunisation Programme
- B. Reproductive Health Programme ✓
- C. Pulse Polio Programme
- D. Mental Health Programme

Q8 General Science ENGLISH

When Plaster of Paris is mixed with water, it undergoes which of the following changes?

- A. It dissolves completely.
- B. It loses all its water molecules.
- C. It produces a gas.
- D. It changes to gypsum. ✓



Q9 General Science **ENGLISH**

What is the unit of electric power commonly used to measure household energy consumption?

- A. Watts
- B. Kilowatt-hours
- C. Joules
- D. Amperes



Q10 General Science **ENGLISH**

Which of the following steps is the first step in balancing a chemical equation?

- A. Writing the skeleton equation
- B. Balancing hydrogen atoms
- C. Adding coefficients randomly
- D. Balancing oxygen atoms



Q11 General Science **ENGLISH**

Which of the following factors is primarily responsible for survival of species?

- A. Niche
- B. Temperature
- C. Mutation
- D. Variations



Q12 General Science **ENGLISH**

Which of the following is correct with regard to resistances in a series circuit?

- A. Total resistance is equal to the product of all resistances.
- B. Total resistance is less than any individual resistance.
- C. Total resistance is equal to the sum of all individual resistances.
- D. Total resistance is inversely proportional to each resistance.



Q13 General Science **ENGLISH**

Which of the following is an example of a decomposition reaction that occurs due to the application of electric current?

- A. Heating calcium carbonate
- B. Electrolysis of water
- C. Decomposition of potassium permanganate by heat
- D. Decomposition of sodium bicarbonate by heat



Q14 General Science **ENGLISH**

Which of the following is NOT a method of pollination?

- A. Water pollination
- B. Self-pollination
- C. Wind pollination
- D. Asexual pollination



Q15 General Science **ENGLISH**

Which part of the Bryophyllum plant develops new plants via vegetative propagation?

- A. Roots
- B. Flowers
- C. Leaves
- D. Stems



Q16 General Science **ENGLISH**

How can you experimentally determine the focal length of a concave mirror?

- A. Measure the diameter of the mirror.
- B. Measure the distance between the pole and the centre of curvature.
- C. Measure the angle of reflection.
- D. Measure the distance between the mirror and the image of a distant object formed by it.



Q17 General Science **ENGLISH**

A tube like structure grows down from the pollen grain to the style and reaches the ovule. This pollen tube is responsible for:

- A.** carrying the male germ cell to the female germ cell in the ovary ✓
- B. carrying oxygen to the female germ cell in the ovary
- C. carrying nutrition to the female germ cell in the ovary
- D. carrying carbon dioxide to the female germ cell in the ovary

Q18 General Science **ENGLISH**

A homologous series is a group of organic compounds that have:

- A. the same molecular formula
- B. the same structural formula
- C.** the same functional group but differ by a CH_2 group ✓
- D. no relation to each other

Q19 General Science **ENGLISH**

Which of the following options is INCORRECT with relation to the given statement?

The magnetic field lines of a bar magnet may be drawn using:

- A. another bar magnet
- B. a magnetic compass
- C.** wood particles ✓
- D. iron filings

Q20 General Science **ENGLISH**

What happens when zinc (Zn) reacts with hydrochloric acid (HCl)?

- A. Hydrogen is oxidised.
- B. Zinc is reduced.
- C.** Zinc is oxidised. ✓
- D. Both Zinc and Hydrogen are oxidised.

Q21 General Science **ENGLISH**

Which of the following materials will have the least resistance at room temperature?

- A. Aluminum
- B.** Copper ✓
- C. Nichrome
- D. Iron

Q22 General Science **ENGLISH**

What is the purpose of using devices like Copper-T in family planning?

- A. To alter hormonal levels in women
- B. To block sperm transfer in males
- C.** To prevent fertilised eggs from implanting in the uterus ✓
- D. To act as a physical barrier to sperm

Q23 General Science **ENGLISH**

What is the angle formed between two lateral faces of a triangular glass prism called?

- A.** Angle of the prism ✓
- B. Angle of incidence
- C. Angle of deviation
- D. Angle of refraction

Q24 General Science **ENGLISH**

Where does the image form when an object is positioned at the centre of curvature of a concave mirror?

- A. At the pole
- B. At the focal point
- C. At infinity
- D.** At the centre of curvature ✓



Q25 General Science **ENGLISH**

When an aqueous solution of potassium iodide reacts with lead nitrate, what type of product is formed?

A. Lead iodide (precipitate) ✓

B. Lead nitrate

C. Lead chloride

D. Sodium nitrate

Q26 General Science **ENGLISH**

In a convex mirror, the principal focus is located ____.

A. at the centre of curvature

B. behind the mirror ✓

C. in front of the mirror

D. at the pole of the mirror

Q27 General Science **ENGLISH**

The measure of how much a material resists the flow of charges is known as:

A. resistivity ✓

B. power generated

C. current

D. potential difference

Q28 General Science **ENGLISH**

Which scientist(s) established the laws of Inheritance?

A. Thomas Hunt Morgan

B. Charles Darwin

C. Gregor Johann Mendel ✓

D. Watson and Crick

Q29 General Science **ENGLISH**

Rose flower pollen has reached Sunflower stigma through pollination. The pollen will be rejected by the stigma because:

A. pollen was of rose flower

B. pollen has nothing to do with stigma

C. pollen was not of sunflower ✓

D. stigma has nothing to do with pollen



General Science

19 Questions • Answer Key

Q1 General Science ENGLISH

In which direction does the force act on a conductor placed in a magnetic field in an electric motor?

- A. In the direction of the current
- B. Perpendicular to both the current and magnetic field ✓
- C. Along the magnetic field
- D. Opposite to the magnetic field

Q2 General Science ENGLISH

In the reaction $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$, the substance reduced is:

- A. Cu
- B. H_2
- C. CuO ✓
- D. H_2O

Q3 General Science ENGLISH

Which of the following reactions is an example of a precipitation reaction?

- A. $\text{NaCl} + \text{AgNO}_3 \rightarrow \text{NaNO}_3 + \text{AgCl}$ ✓
- B. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- C. $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- D. $\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

Q4 General Science ENGLISH

According to experimental results, when does the magnitude of the force on a current-carrying conductor in a magnetic field become the highest?

- A. When the current flows at any angle to the magnetic field
- B. When the current is perpendicular to the magnetic field ✓
- C. When the current is parallel to the magnetic field
- D. When the current is opposite to the magnetic field

Q5 General Science ENGLISH

If three resistors of $6\ \Omega$, $3\ \Omega$ and $2\ \Omega$ are connected in parallel, the total equivalent resistance is _____.

- A. $0.5\ \Omega$
- B. $1\ \Omega$ ✓
- C. $2\ \Omega$
- D. $11\ \Omega$

Q6 General Science ENGLISH

Fleming's Right-Hand Rule is applicable in the case of _____.

- A. electric motors
- B. electric generators ✓
- C. fuse wires
- D. electric kettles

Q7 General Science ENGLISH

Which of the following will cause the greatest increase in power dissipation for a given resistor?

- A. Halving the resistance
- B. Doubling the resistance
- C. Halving the current through the resistor
- D. Doubling the voltage across the resistor ✓

Q8 General Science ENGLISH

If a substance has a pH of 11, which of the following statements is true?

- A. It is acidic and does not change the colour of the litmus paper.
- B. It is acidic and can turn blue litmus paper red.
- C. It is basic and can turn red litmus paper blue. ✓
- D. It is neutral and does not change the litmus colour.



Q9 General Science ENGLISH

The potential difference versus current plot for a conducting wire is a straight line. The slope of this line gives us the:

- A. number of electrons in the wire
- B. resistance of the wire** ✓
- C. voltage across the wire
- D. current flowing through the wire

Q10 General Science ENGLISH

Why do iron filings arrange themselves in a pattern around a bar magnet?

- A. Because of the magnetic field** ✓
- B. Due to electric charge
- C. Due to gravitational force
- D. Because they are heavy

Q11 General Science ENGLISH

What happens to the resistance of most conductors as their temperature increases?

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

Q12 General Science ENGLISH

Which of the following combinations would produce a precipitate?

- A. $\text{NaOH} + \text{FeCl}_3$** ✓
- B. $\text{NaOH} + \text{NaCl}$
- C. $\text{NaCl} + \text{KNO}_3$
- D. $\text{NaOH} + \text{Na}_2\text{SO}_4$

Q13 General Science ENGLISH

If the length of a wire-shaped resistor is doubled, the resistivity:

- A. remains the same** ✓
- B. is doubled
- C. is quadrupled
- D. is halved

Q14 General Science ENGLISH

A solution has a pH of 12. Which ion concentration is higher in this solution?

- A. Only H^+
- B. Both H^+ and OH^- are equal
- C. Only OH^-** ✓
- D. More number S^{2-} ions and more Cl^{-1}

Q15 General Science ENGLISH

Which ion is responsible for the acidic properties of acids?

- A. H^+** ✓
- B. Cl^-
- C. OH^-
- D. Na^+

Q16 General Science ENGLISH

A copper wire has a resistance of $10\ \Omega$. If it is replaced with a wire of the same material and length but twice the cross-sectional area, its resistance will be _____.

- A. $20\ \Omega$
- B. $2.5\ \Omega$
- C. $5\ \Omega$** ✓
- D. $10\ \Omega$

Q17 General Science ENGLISH

Which of the following represents a combination reaction?

- A. $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$
- B. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- C. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2$** ✓
- D. $\text{NaCl} + \text{AgNO}_3 \rightarrow \text{AgCl} + \text{NaNO}_3$



Q18 General Science **ENGLISH**

When lead nitrate is heated, it decomposes to form lead monoxide (PbO), nitrogen dioxide (NO₂), and oxygen (O₂). The brown gas seen during the reaction is:

- A. nitric oxide (NO)
- B. nitrogen dioxide (NO₂) ☒
- C. lead monoxide (PbO)
- D. oxygen (O₂)

Q19 General Science **ENGLISH**

When two elements react to form a compound, it can be classified as:

- A. double displacement
- B. combination ☒
- C. displacement
- D. decomposition



General Science

30 Questions • Answer Key

Q1 General Science ENGLISH

Washing soda is represented by $\text{Na}_2\text{CO}_3 \cdot x\text{H}_2\text{O}$. The value of 'x' is equal to:

- A. 6
- B. 8
- C. 10
- D. 2



Q2 General Science ENGLISH

What does the thumb represent in Fleming's Right-Hand Rule?

- A. Direction of motion
- B. Direction of induced current
- C. Direction of voltage
- D. Direction of magnetic field



Q3 General Science ENGLISH

Which of the following modes of asexual reproduction is used by unicellular organisms exclusively?

- A. Fragmentation
- B. Regeneration
- C. Sporulation
- D. Binary fission



Q4 General Science ENGLISH

People having acidity problems are treated with antacids that contain which of the following?

- A. Milk of magnesia
- B. Quick lime
- C. Hydrochloric acid
- D. Lime water



Q5 General Science ENGLISH

Baking soda, commonly used in households, is also known by its chemical name:

- A. sodium carbonate
- B. magnesium hydroxide
- C. sodium bicarbonate
- D. calcium carbonate



Q6 General Science ENGLISH

When a solution contains an equal number of H^+ and OH^- ions, then the pH of the solution is:

- A. $\text{pH} > 12$
- B. $\text{pH} < 3$
- C. $\text{pH} > 3$ but < 5
- D. $\text{pH} = 7$



Q7 General Science ENGLISH

Which of the following devices operates based on the heating effect of electric current?

- A. Electric motor
- B. Electric iron
- C. Generator
- D. Transformer



Q8 General Science ENGLISH

A concave mirror can form a real, inverted and magnified image when the object is placed _____.

- A. between the focus and the centre of curvature
- B. at the pole
- C. between the pole and the focus
- D. beyond the centre of curvature



Q9 General Science **ENGLISH**

The magnetic field inside a solenoid:

- A. varies with distance from the edge
- B. is the same at all points**
- C. is zero at the centre
- D. is maximum at the centre and minimum at the edge

Q10 General Science **ENGLISH**

Consider a pencil dipped in water in a glass beaker. If the water is replaced by kerosene or turpentine, will the pencil appear displaced to the same extent?

- A. No, the displacement will vary.
- B. No, the pencil will appear straight.**
- C. Yes, the displacement will be the same.
- D. Yes, it will be more displaced than in water.

Q11 General Science **ENGLISH**

What is the shape of the magnetic field lines inside a solenoid?

- A. Straight and parallel**
- B. Randomly oriented
- C. Circular
- D. Elliptical

Q12 General Science **ENGLISH**

In Amoeba, the splitting during fission can occur _____.

- A. only along a fixed plane
- B. in a definite orientation related to a structure
- C. only in one specific plane
- D. in any plane**

Q13 General Science **ENGLISH**

Which process ensures half the amount of DNA in reproductive cells as compared to non-reproductive cells?

- A. Meiosis**
- B. Cytokinesis
- C. Amitosis
- D. Mitosis

Q14 General Science **ENGLISH**

Which of the following metals will displace copper from copper sulfate solution?

- A. Platinum
- B. Silver
- C. Iron**
- D. Gold

Q15 General Science **ENGLISH**

Why do stars appear to twinkle when viewed from the Earth?

- A. Diffraction by clouds
- B. Scattering by particles
- C. Reflection in the atmosphere
- D. Refraction in the Earth's atmosphere**

Q16 General Science **ENGLISH**

Which law of refraction states that light bends due to a change in speed when passing from one medium to another?

- A. Huygens' principle
- B. Law of reflection
- C. Fermat's principle
- D. Snell's law**



Q17 General Science **ENGLISH**

What is the process of fusion of the male and female gametes called in plants?

A. Fertilisation



B. Propagation

C. Germination

D. Pollination

Q18 General Science **ENGLISH**

Why is asexual reproduction advantageous for single-celled organisms?

A. It allows rapid reproduction in favourable conditions.



B. It prevents overcrowding.

C. It requires a mate.

D. It increases genetic variability.

Q19 General Science **ENGLISH**

Which of the following is an example of regeneration in plants?

A. Binary fission in bacteria

B. Reproduction in humans

C. Growth of a new plant from a cutting



D. Budding in hydra

Q20 General Science **ENGLISH**

Which among the following organisms reproduce by regeneration method?

A. Bryophyllum

B. Rhizopus

C. Yeast

D. Planaria



Q21 General Science **ENGLISH**

Why is variation in plants important for their survival and evolution?

A. It ensures that all plants produce identical offspring.

B. It allows plants to adapt to changing environmental conditions.



C. It reduces competition among plants.

D. It helps plants to grow taller and stronger.

Q22 General Science **ENGLISH**

When sodium carbonate (Na_2CO_3) is dissolved in water, the resulting solution becomes:

A. neutral

B. highly reactive with sodium chloride

C. acidic

D. basic



Q23 General Science **ENGLISH**

In a series circuit, if one of the resistors is removed or broken, the current in the circuit will _____.

A. stay the same

B. become zero



C. decrease

D. increase

Q24 General Science **ENGLISH**

Which reactants are used to prepare bleaching powder?

A. Calcium hydroxide and hydrochloric acid

B. Chlorine and water

C. Chlorine gas and dry calcium hydroxide



D. Lime and sulphuric acid

Q25 General Science **ENGLISH**

What is the general form of a combination reaction?

A. $A \rightarrow B + C$

B. $AB \rightarrow A + B$

C. $A + B \rightarrow AB$



D. $AB + CD \rightarrow AC + BD$



Q26 General Science **ENGLISH**

The product of the reaction between ethanol and acetic acid is:

- A. acetate
- B. ester** ✓
- C. ethanal
- D. methanol

Q27 General Science **ENGLISH**

A solution has a pH of 8. If it is diluted with an equal volume of water, what will happen to its pH?

- A. The pH will remain the same.
- B. The pH will increase.
- C. It will become neutral.** ✓
- D. The pH will decrease.

Q30 General Science **ENGLISH**

What is the resistivity (ρ) of a material?

- A. A measure of how strongly a material opposes the flow of electric current** ✓
- B. The same as its resistance
- C. The amount of current a material can carry
- D. The product of voltage and current

Q28 General Science **ENGLISH**

What are the units of inheritance, which Mendel referred to as 'factors,' now called?

- A. Genes** ✓
- B. Traits
- C. Chromosomes
- D. DNA

Q29 General Science **ENGLISH**

According to Mendel, which trait appeared in F1 progeny on crossing tall pea plants with short pea plants?

- A. Medium
- B. Tall** ✓
- C. Short
- D. Dwarf



General Science

30 Questions • Answer Key

Q1 General Science ENGLISH

A gardener wants to grow potato plants. He had put a potato with buds (eyes) in the soil. He succeeded to get a new potato plant because:

- A. there was no animal to eat the potato buds
- B. vegetative propagation is by buds (eyes) ✓
- C. potatoes can be grown by root cuttings
- D. there are no other plant species in that area

Q2 General Science ENGLISH

An object is placed at 30 cm from a convex mirror with a focal length of 15 cm. Calculate the image distance (v) using the mirror formula.

- A. -10 cm
- B. 10 cm ✓
- C. -15 cm
- D. 15 cm

Q3 General Science ENGLISH

Nita is pregnant, but loves to eat junk food. Her doctor advised her to eat salads and fruits. The reason for this advice is:

- A. junk food is tasty, but leads to obesity
- B. the mother's blood has no role in the growth of a baby
- C. junk food is costly in comparison to salad and fruits
- D. the nutrients in the mother's blood nourishes the growing baby ✓

Q4 General Science ENGLISH

An electric fan becomes warm if used continuously for longer time. This happens due to:

- A. the high temperature during the summer
- B. the slow rotation of the fan
- C. the fast rotation of the fan
- D. heating effect of the current flowing through the fan ✓

Q5 General Science ENGLISH

An electric refrigerator rated 400 W operates 8 hours/day. What is the cost of the energy to operate it for 30 days at ₹3.00 per kW h?

- A. ₹36
- B. ₹400
- C. ₹288 ✓
- D. ₹9.6

Q6 General Science ENGLISH

What happens when sodium hydroxide reacts with copper (II) sulfate solution?

- A. Sodium sulfate is formed.
- B. Copper(II) hydroxide precipitates. ✓
- C. Copper metal is deposited.
- D. No reaction occurs.

Q7 General Science ENGLISH

When washing soda is exposed to hot atmosphere for a long time, it:

- A. gains heat from the Sun and becomes dry
- B. loses water molecules but remains in crystal form
- C. loses water molecules and becomes powdery ✓
- D. gains water molecules and dissolves in them

Q8 General Science ENGLISH

What unique feature do the sex chromosomes in humans have compared to other chromosomes?

- A. They are not always a perfect pair in males. ✓
- B. They are always perfectly paired.
- C. They are the largest chromosomes in the body.
- D. They are identical in males and females.



Q9 General Science **ENGLISH**

The genetic constitution of a child getting an X bearing sperm from the father will be:

A. 44+XY

B. 46+XY

C. 44+XX



D. 46+XX

Q10 General Science **ENGLISH**

What is the term for the band of colours produced when light is dispersed?

A. Spectrum



B. Refraction

C. Reflection

D. Absorption

Q11 General Science **ENGLISH**

Who was the scientist credited with the discovery of electromagnetic induction?

A. Nikola Tesla

B. Michael Faraday



C. Thomas Edison

D. Isaac Newton

Q12 General Science **ENGLISH**

Which of the following is a safety device used to prevent excessive current from flowing in electrical circuits?

A. Capacitor

B. Resistor

C. Transformer

D. Fuse



Q13 General Science **ENGLISH**

Which of the following bacterial infections is considered a sexually transmitted disease (STD)?

A. Typhoid

B. Tuberculosis

C. Pneumonia

D. Gonorrhoea



Q14 General Science **ENGLISH**

Which of the following plants propagates through runners?

A. Jasmine

B. Strawberry



C. Rose

D. Potato

Q15 General Science **ENGLISH**

Which of the following is the female germ cell in plants?

A. Cells outside the ovule

B. Cell opposite to egg cell in an ovule

C. Cells in the centre of ovule

D. Egg cell



Q16 General Science **ENGLISH**

What type of image does a concave lens form when an object is placed at infinity?

A. Virtual, erect and point sized



B. Virtual, erect and larger

C. Real, inverted and same size

D. Real, erect and point sized

Q17 General Science **ENGLISH**

The reactants that are used for the production of bleaching powder are:

A. $\text{CaOH} + \text{Cl}_2$

B. $\text{CaO} + \text{Cl}$

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



D. $\text{CaO} + \text{Cl}_2$

Q18 General Science **ENGLISH**

An unsaturated carbohydrate that has a double bond is:

A. C_3H_4

B. C_3H_6



C. C_3H_8

D. C_2H_2



Q19 General Science **ENGLISH**

In a displacement reaction, if a more reactive metal displaces a less reactive metal from its salt solution, what is the result?

- A. The less reactive metal is displaced and solidifies
- B. Formation of an insoluble salt** ✓
- C. The less reactive metal is displaced and the more reactive metal becomes a part of the compound
- D. The more reactive metal remains unchanged

Q20 General Science **ENGLISH**

When sodium sulphate solution is added to barium chloride solution, precipitate of _____ is formed.

- A. barium hydrogen sulphate
- B. barium sulphate** ✓
- C. sodium hydrogen sulphate
- D. sodium chloride

Q21 General Science **ENGLISH**

Neutralisation reaction is a type of:

- A. combination reaction
- B. displacement reaction
- C. decomposition reaction
- D. double displacement reaction** ✓

Q22 General Science **ENGLISH**

What does Family Planning aim at?

- A. Population growth
- B. Preventing all pregnancies by recommending abortion
- C. Population control** ✓
- D. Increasing pollution

Q23 General Science **ENGLISH**

The chemical name for 'Plaster of Paris' is:

- A. calcium chloride hexahydrate
- B. calcium sulphate dihydrate
- C. calcium chloride semihydrate
- D. calcium sulphate hemihydrate** ✓

Q24 General Science **ENGLISH**

The front face of a circular loop of a wire is the North Pole; the direction of current in this face of the loop will be:

- A. towards north
- B. clockwise
- C. anti-clockwise** ✓
- D. towards south

Q25 General Science **ENGLISH**

Which of the following is an example of exothermic combination reaction?

- A. Quick lime dissolved in water** ✓
- B. Photosynthesis
- C. Ammonium chloride dissolved in water
- D. Respiration

Q26 General Science **ENGLISH**

A rose plant with white flowers was planted in soil by stem cutting without any grafting. The new plant produced similar white flowers. What does it indicate?

- A. White flowers look good so gardeners plant such roses.
- B. Stem cutting is a type of asexual reproduction, so there was no variation.** ✓
- C. White flowers are the only type of variety available in rose.
- D. Stem cutting is a type of sexual reproduction, so there was no variation.

Q27 General Science **ENGLISH**

When hydrogen gas is passed through heated black copper (II) oxide, it:

- A. oxidises to form bluish copper solution
- B. oxidises to form brownish copper metal
- C. reduces to form bluish copper solution
- D. reduces to form brownish copper metal** ✓



Q28 General Science **ENGLISH**

Which of the following is NOT true about fragmentation?

- A. It involves breaking of the organism into parts.
- B. It is a form of sexual reproduction. ✓
- C. Each fragment can grow into a complete individual.
- D. It requires the organism to be multicellular.

Q29 General Science **ENGLISH**

A lens has _____ principal foci.

- A. 3
- B. 1
- C. 2 ✓
- D. 4

Q30 General Science **ENGLISH**

Fleming's Left-Hand Rule is used to determine _____.

- A. the magnitude of the force on a current-carrying conductor
- B. the strength of the magnetic field
- C. the direction of force on a current-carrying conductor ✓
- D. the amount of current flowing through the conductor

