



2024

प्रश्न-पत्र कोड 31/2/1
Q.P. Codeरोल नं.
Roll No. 

परीक्षार्थी प्रश्न-पत्र कोड को उत्तर-पुस्तिका के मुख-पृष्ठ पर अवश्य लिखें।

Candidates must write the Q.P. Code on the title page of the answer-book.

- कृपया जाँच कर लें कि इस प्रश्न-पत्र में मुद्रित पृष्ठ 12 हैं।
- प्रश्न-पत्र में दाहिने हाथ की ओर दिए गए प्रश्न-पत्र कोड को परीक्षार्थी उत्तर-पुस्तिका के मुख-पृष्ठ पर लिखें।
- कृपया जाँच कर लें कि इस प्रश्न-पत्र में 39 प्रश्न हैं।
- कृपया प्रश्न का उत्तर लिखना शुरू करने से पहले, उत्तर-पुस्तिका में प्रश्न का क्रमांक आवश्य लिखें।
- इस प्रश्न-पत्र को पढ़ने के लिए 15 मिनट का समय दिया गया है। प्रश्न-पत्र का वितरण पूर्वान्ह में 10.15 बजे किया जाएगा। 10.15 बजे से 10.30 बजे तक छात्र केवल प्रश्न-पत्र को पढ़ेंगे और इस अवधि के दौरान वे उत्तर-पुस्तिका पर कोई उत्तर नहीं लिखेंगे।
- Please check that this question paper contains 12 printed pages.
- Q.P. Code given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains 39 questions.
- **Please write down the serial number of the question in the answer-book before attempting it.**
- 15 minute time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the students will read the question paper only and will not write any answer on the answer-book during this period.

NOTE: This is Educart provided Mock Set to help students experience the exam pattern beforehand.

विज्ञान SCIENCE

निर्धारित समय : 3 घण्टे

अधिकतम अंक : 80

Time Allowed: 3 Hours

Maximum Marks: 80

General Instructions:

Read the following instructions very carefully and strictly follow them :

- (i) This question paper consists of 39 questions.
- (ii) All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.



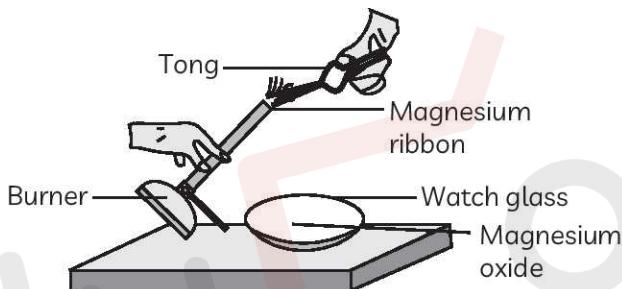
- (iii) This question paper is divided into **five** sections – **A, B, C, D and E**.
- (iv) **Section A** – Questions No. **1** to **20** are multiple choice questions. Each question carries **1** mark.
- (v) **Section B** – Questions No. **21** to **26** are very short answer type questions. Each question carries **2** marks. Answers to these questions should be in the range of 30 to 50 words.
- (vi) **Section C** – Questions No. **27** to **33** are short answer type questions. Each question carries **3** marks. Answers to these questions should be in the range of 50 to 80 words.
- (vii) **Section D** – Questions No. **34** to **36** are long answer type questions. Each question carries **5** marks. Answer to these questions should be in the range of 80 to 120 words.
- (viii) **Section E** – Questions No. **37** to **39** are of 3 source-based/case-based units of assessment of **4** marks each with sub-parts.

SECTION A

This section has **20** multiple choice questions (Q.No. 1 – 20). All questions are **compulsory**.

$$20 \times 1 = 20$$

1.

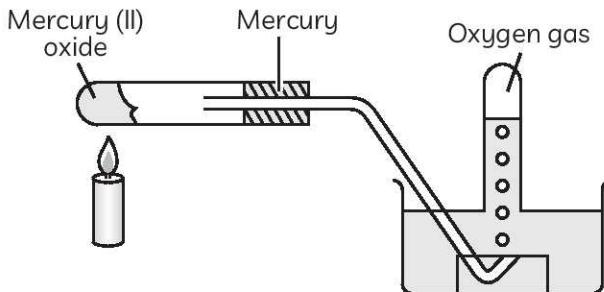


Which of the following is the correct observation of the reaction shown in the above set up?

- (a) Brown powder of magnesium oxide is formed.
- (b) Colourless gas which turns lime water milky is evolved.
- (c) Magnesium ribbon burns with brilliant white light.
- (d) Reddish brown gas with a smell of burning sulphur has evolved.

1

2. The diagram below represents:

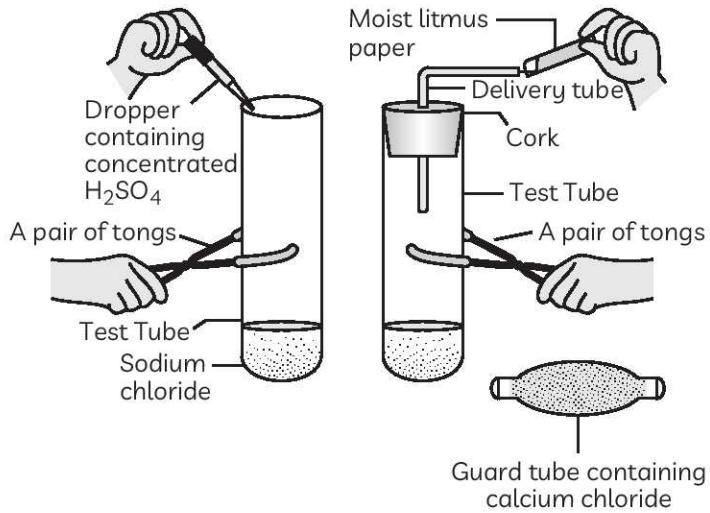


- (a) Displacement reaction
- (b) Electrolysis reaction
- (c) Photodecomposition reaction
- (d) Thermal decomposition reaction

1



3. The change in colour of the moist litmus paper in the given set up is due to:

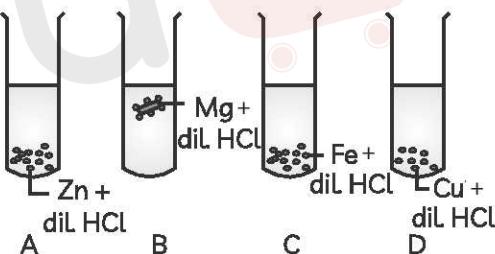


- (I) presence of acid.
- (II) presence of base.
- (III) presence of H(aq) in the solution.
- (IV) presence of Litmus which acts as an indicator.

Options:

- | | |
|------------------|---------------|
| (a) (I) and (II) | (b) Only (II) |
| (c) Only (III) | (d) Only (IV) |

4. The diagram shows the reaction between metal and dil. acid.



What is the reason for different behaviour of Mg in test tube B?

- (a) Mg is lighter element than dil. HCl.
- (b) Mg reacts with dil. HCl to produce H₂ gas which helps in floating.
- (c) Mg reacts with dil. HCl to produce N₂ gas which helps in floating.
- (d) Mg reacts with dil. HCl to produce CO₂ gas which helps in floating.

5. The iron rod is covered with a reddish-brown layer which damages the surface of the rod. Its balanced equation is represented by:

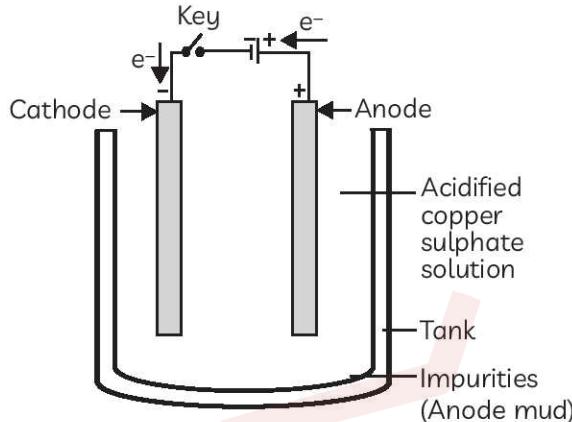
- (a) $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_2\text{O}_3 + 4\text{H}_2$
- (b) $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4\text{H}_2$
- (c) $3\text{Fe} + 2\text{H}_2\text{O} \rightarrow \text{FeO} + 2\text{H}_2$
- (d) $3\text{Fe} + 2\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 2\text{H}_2$



6. Steps of the process explaining how pure metals are obtained from impure samples by electrolytic refining are as follows:

- Keep impure metal at anode and pure metal at cathode
- Pass current in the electrolytic solution
- Insoluble impurities settle in the bottom of the anode as anode mud
- Pure metal from anode dissolves in the solution and pure metal from solution deposits on the cathode

You can also refer to the figure for arranging the steps.



Which of the following options shows the correct arrangement of the steps?

- | | |
|----------------------------|----------------------------|
| (a) (I), (III), (IV), (II) | (b) (I), (II), (III), (IV) |
| (c) (I), (II), (IV), (III) | (d) (I), (IV), (III), (II) |

1

7. Shristi made these conclusions regarding Aluminium. Which one would you agree disagree with?

- Due to affinity of Aluminium with oxygen, the extraction of the metal is done by the process of electrolysis.
- Instead of extraction of metals (Al), it is better to Reuse or Recover.
- Awareness of utility of a material is the first step to reduce the wastage of the material followed by effective reuse and recycle.

Options:

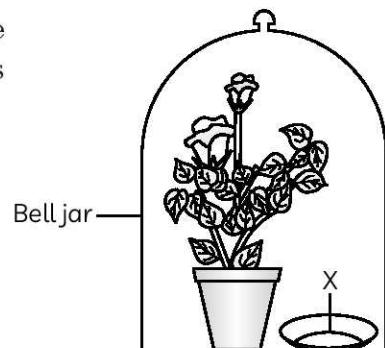
- | | |
|--------------------|-------------------------|
| (a) Only (I) | (b) (I) and (II) |
| (c) (II) and (III) | (d) (I), (II) and (III) |

1

8. Observe the experimental setup shown below. Name the chemical indicated as 'X' that can absorb the gas which is evolved as a byproduct of respiration.

- NaOH
- KOH
- Ca(OH)₂
- K₂CO₃

1

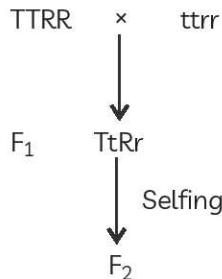


9. Nitesh met with an accident and lost the capacity to walk in a straight line. Which part of the brain is damaged?

- (a) Fore brain
- (b) Mid brain
- (c) Cerebellum
- (d) Medulla

1

10. Observe the cross shown:



Which one of the following are new combinations?

- (I) Tall with wrinkled seeds.
- (II) Tall with round seeds.
- (III) Short with wrinkled seeds.
- (IV) Short with round seeds.

Select the correct option:

- (a) (I) and (III)
- (b) (I) and (IV)
- (c) (II) and (III)
- (d) (II) and (IV)

1

11. Semen which contain millions of sperms also contain secretions of seminal vesicle and prostate gland (accessory glands). It makes the transport of sperms easier and provide nutrition to sperms.

Correct sequence of the organs in the male reproductive system for transport of sperms is:

- (a) Testes → vas deferens → urethra
- (b) Testes → ureter → urethra
- (c) Testes → urethra → ureter
- (d) Testes → vas deferens → ureter

1

12. Which is the correct sequence of air passage during inhalation?

- (a) Nostrils → Larynx → Pharynx → Trachea → Lungs
- (b) Nasal passage → Trachea → Pharynx → Larynx → Alveoli
- (c) Larynx → Nostrils → Pharynx → Lungs
- (d) Nostrils → Pharynx → Larynx → Trachea → Alveoli

1

13. A small electric lamp is placed at the focus of a convex lens. When the lamp is switched on, the lens will produce:

- (a) converging beam of light
- (b) parallel beam of light
- (c) diverging beam of light
- (d) diffused beam of light

1



14. The sky appears dark to passengers flying at very high altitudes mainly because:

- (a) scattering of light is not enough at such heights.
- (b) there is no atmosphere at great heights.
- (c) the size of molecules is smaller than the wavelength of visible light.
- (d) the light gets scattered towards the earth.

1

15. Given below are some ways to reduce the problem of waste disposal.

- (I) By mixing of waste before disposing off.
- (II) By using more biodegradable waste.
- (III) By using more non-biodegradable waste.
- (IV) By recycling non-biodegradable waste.

Which of the following are correct?

- | | |
|-------------------------|--------------------|
| (a) (I) and (II) | (b) (II) and (III) |
| (c) (I), (II) and (III) | (d) (II) and (IV) |

1

16. As human beings occupy the top level in any food chain, the maximum concentration of insecticides get accumulated in our bodies. This phenomenon is known as:

- (a) Pollution
- (b) Eutrophication
- (c) Biological magnification
- (d) None of these

1

For Questions number 17 to 20, two statements are given – one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
- (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is **not** the correct explanation of the Assertion (A).
- (c) Assertion (A) is true but Reason (R) is false.
- (d) Assertion (A) is false but Reason (R) is true.

17. Assertion (A) : Silver bromide decomposition is used in black and white photography.

Reason (R) : Light provides energy for this exothermic reaction.

1

18. Assertion (A) : Height in pea plants is controlled by efficiency of enzymes and is thus, genetically controlled.

Reason (R) : Cellular DNA is the information source for making proteins in the cell.

1

19. Assertion (A) : On freely suspending a current – carrying solenoid, it comes to rest in Geographical N-S direction.

Reason (R) : One end of current carrying straight solenoid behaves as a North pole and the other end as a South pole, just like a bar magnet.

1

20. Assertion (A) : The flow of energy in an ecosystem is unidirectional.

Reason (R) : Green plants in a terrestrial ecosystem capture about 10% of the energy of sunlight that falls on their leaves.

1



SECTION B

21. (a) Write the molecular formula of first two members of homologous series having functional group $-Cl$. 2

(b) Two non-metal atoms combine with each other and form X_2 .

(i) What type of chemical bond is present in X_2 ?

(ii) State whether X_2 will have high or low melting point. 2

22. Observe the following cross:

Pure tall pea plant	\times	Pure dwarf pea plant
	\downarrow	
F_1	Tall plant	

What happens to the traits of the dwarf plant? 2

23. Patients whose gall bladder are removed are recommended to eat less oily food. Why? Support your response by mentioning its function. 2

OR

Name the substances other than water, that are reabsorbed during urine formation. What are the two parameters that decide the amount of water that is reabsorbed in the kidney? 2

24. The refractive indices of four media P, Q, R and S are given in the following table:

Medium	P	Q	R	S
Refractive Index	1.33	1.50	1.52	2.40

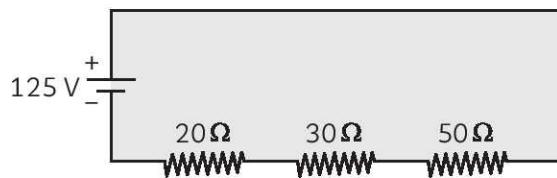
- (a) If light travels from one medium to another, in which case, the change in speed will be minimum. 2
- (b) If light, travels from one medium to another, in which case the change in speed will be maximum. 2

25. Draw a diagram to show how three resistors R_1 , R_2 and R_3 should be connected so that the total resistance of the circuit is minimum. 2

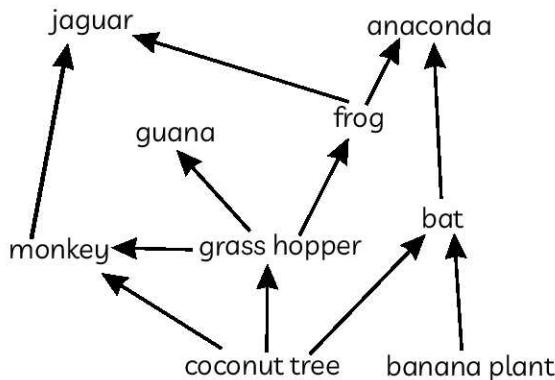
OR

Determine the following quantities for the circuit shown below:

- (a) The total current from the power supply.
- (b) The voltage drop across each resistor.



26. Part of forest food web is shown.



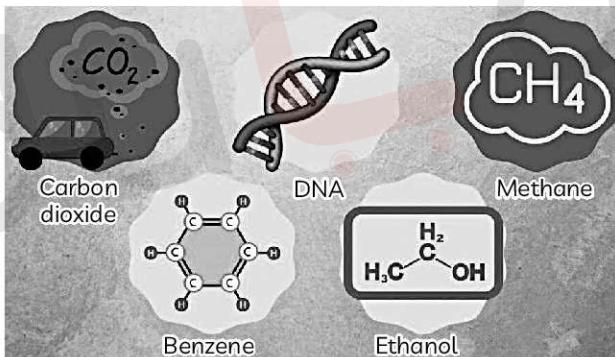
The producers in the food web make their own food.

(a) Identify the producer.

(b) Name the process that producers use to make their own food. Explain how this process produces food. 2

SECTION C

27. The following picture shows certain examples of compounds containing carbon such as carbon dioxide, methane, DNA. List any three common physical properties of these carbon compounds.



3

28. Akash took a solution of CuSO_4 and kept it in an iron pot. After a few days, the iron pot was found to have a number of holes in it. Explain the reason in terms of reactivity. Write the equation of the reaction involved.

OR

Explain the formation of ionic compound, Al_2O_3 with electron-dot structure.

(Given: atomic no. of Al and O are 13 and 8 respectively) 2

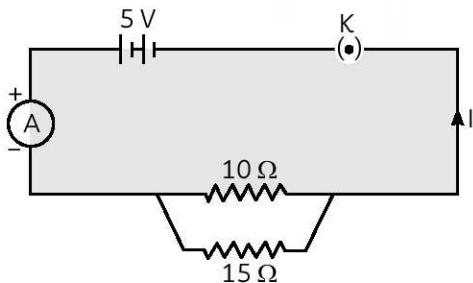
29. (a) Kidneys are a pair of bean-shaped organs located in the abdominal cavity and are about 11 cm in length. What are the functions of kidneys in human body?
(b) Name the filtration units present in kidneys.
(c) Name two substances which are selectively reabsorbed from nephric filtrate into the blood.



30. A red haired woman marries a brown haired man, and all the children are brown haired. Support your response showing a cross for the possible number of situations. 3

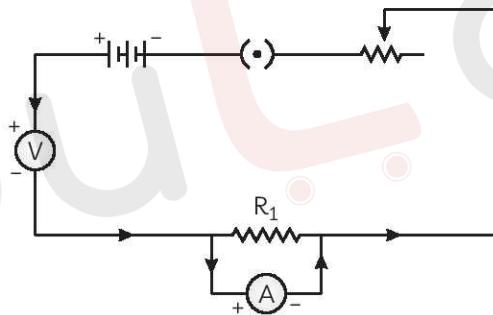
31. A man placed an object of 6 cm in height at 20 cm in front of a concave mirror of focal length 15 cm. At what distance from the mirror should a screen be placed to obtain a sharp image of the object. Calculate the height of the image. 3

32. Study the following circuit and answer the questions that follow:



- (a) State the type of combination of two resistors in the given circuit.
(b) How much current is flowing through (i) 10 Ohms and (ii) 15 Ohms resistor?
(c) What is the ammeter reading? 3

33. Is the circuit given below correct? Give an explanation for your response.



SECTION D

34. Sahil bought a compound 'X', which on electrolysis in aqueous solution produces a strong base 'Y' along with two gases 'A' and 'B'. 'B' is used in manufacturing of bleaching powder. Identify X, Y, A and B. Write chemical equations.

OR

Raman took a sodium compound 'X', which is also used in soda-acid fire extinguisher, and upon heating, it gives a sodium compound 'Y' along with water and carbon dioxide. 'Y' on crystallisation forms a compound 'Z'.

- (a) Identify 'X', 'Y' and 'Z'. Write chemical equations of the reactions taking place.
(b) How can we obtain Y from Z? Write the equation.
(c) Write any two uses of the compound 'Z'. 5



35. Sita studied in her class about vegetative propagation in Science class. But she had some doubts which she wanted to clear. Can you explain her what is vegetative propagation? List with brief explanation about the three advantages of practicing this process for growing some types of plants.

Select two plants from the following which are grown by this process:

Banana, Wheat, Mustard, Jasmine, Gram.

OR

Name the reproductive parts of an angiosperm. Where are these parts located? Explain the structure of its female reproductive parts with the help of a labelled diagram. 5

36. The following table shows the information about two heaters A and B. Analyse the table and answer the following questions:

	Heater A	Heater V
Power	100 W	150 W
Voltage	220 V	220 V
Resistance	?	?
Current	?	?

- (a) Which heater has high resistance?
(b) If 1kWh is priced at ₹5, which heater will be costlier if they run for 1 hour each?

OR

- (a) What are the advantages of connecting electrical devices in parallel with the battery instead of connecting them in series?
(b) Two resistors of 20 W and 40 W are connected in parallel in an electric circuit. Compare the current passing through the two resistors. 5

SECTION E

The following questions are source-based / case-based questions. Read the case carefully and answer the questions that follow.

37. The given table shows six organic compounds A, B, C, D, E and F having different molecular formula:

Organic Compound	Molecular Formula
A	C ₇ H ₁₆
B	C ₈ H ₁₆
C	C ₄ H ₆
D	C ₆ H ₁₀
E	C ₅ H ₁₀
F	C ₉ H ₂₀



- (a) Which compounds belong to same homologous series? 1
 (b) Which is the member of the same homologous series as E? 1
 (c) A and F are saturated hydrocarbons while all others are unsaturated hydrocarbons. Justify this statement and give reason for the same.

OR

- (c) What type of compound is B and F? 2

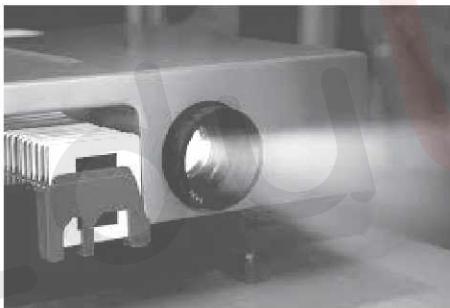
38. Pooja has green eyes while her parents and brother have black eyes. Pooja's husband Ravi has black eyes while his mother has green eyes and father has black eyes.

- (a) On the basis of the above given information, is the green eye colour a dominant or recessive trait? Justify your answer. 1
 (b) What is the possible genetic makeup of Pooja's brother's eye colour? 1
 (c) What is the probability that the offspring of Pooja and Ravi will have green eyes? Also, show the inheritance of eye colour in the offspring with the help of a suitable cross.

OR

- (c) 50% of the offspring of Pooja's brother are green eyed. With help of cross show how this is possible. 2

39.



The above images are that of a specialised slide projector. Slides are small transparencies mounted in sturdy frames ideally suited to magnification and projection, since they have a very high resolution and a high image quality. There is a tray where the slides are to be put into a particular orientation so that the viewers can see the enlarged erect images of the transparent slides. This means that the slides will have to be inserted upside down in the projector tray.

To show her students the images of insects that she investigated in the lab, Mrs. Iyer brought a slide projector. Her slide projector produced a 500 times enlarged and inverted image of a slide on a screen 10 m away.

- (a) Based on the text and data given in the above paragraph, what kind of lens must the slide projector have? 1
 (b) If v is the symbol used for image distance and u for object distance then by providing one reason, state what will be the sign for $\frac{v}{u}$ in the given case? 1



- (c) A slide projector has a convex lens with a focal length of 20 cm. The slide is placed upside down 21 cm from the lens. How far away should the screen be placed from the slide projector's lens so that the slide is in focus?

OR

- (c) When a slide is placed 15 cm behind the lens in the projector, an image is formed 3 m in front of the lens. If the focal length of the lens is 14 cm, draw a ray diagram to show image formation (not to scale). 2



MARKING SCHEME CHART

to evaluate your final marks

Science; Set-2; QP Code: 31/2/1

Question	Marks (Type)	Topic (Chapter Name)	Full Marks (Breakdown)	Your Performance
Q1	1m (MCQ)	Chemical Reactions (Chemical Reactions and Equations)	(c) Magnesium ribbon burns with brilliant white light.	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q2	1m (MCQ)	Types of Chemical Reaction (Chemical Reactions and Equations)	(d) Thermal decomposition reaction	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q3	1m (MCQ)	Indicators (Acids, Bases And Salts)	(c) Only (III)	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q4	1m (MCQ)	Reaction between Metals and Non-Metals (Metals and Non-Metals)	(b) Mg reacts with dil. HCl to produce H ₂ gas which helps in floating.	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q5	1m (MCQ)	Chemical Properties of Metals and Non-Metals (Metals and Non-Metals)	(b) $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4\text{H}_2$	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q6	1m (MCQ)	Occurrence and Extraction of Metals (Metals and Non-Metals)	(c) (I), (II), (IV), (III)	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q7	1m (MCQ)	Occurrence and Extraction of Metals (Metals and Non-Metals)	(d) (I), (II) and (III)	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q8	1m (MCQ)	Respiration (Life Processes)	(b) KOH	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q9	1m (MCQ)	Nervous System in Humans (Control and Coordination)	(c) Cerebellum	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q10	1m (MCQ)	Genetic Crosses (Heredity)	(b) (I) and (IV)	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q11	1m (MCQ)	Sexual Reproduction (How do Organisms Reproduce?)	(a) Testes → vas deferens → urethra	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q12	1m (MCQ)	Respiration (Life Processes)	(d) Nostrils → Pharynx → Larynx → Trachea → Alveoli	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q13	1m (MCQ)	Refraction of Light (Light: Reflection and Refraction)	(b) parallel beam of light	<input type="checkbox"/> <input checked="" type="checkbox"/>
Q14	1m (MCQ)	Atmospheric Refraction (The Human Eye and the Colourful World)	(a) scattering of light is not enough at such heights.	<input type="checkbox"/> <input checked="" type="checkbox"/>

*Note : These are custom made by Educart (based on CBSE Marking Scheme 2023-24) to help the students calculate their approximate score and are not officially provided by the board.



Q15	1m (MCQ)	Effects of our Activities on Environment (Our Environment)	(d) (II) and (IV)	<input type="checkbox"/> 1
Q16	1m (MCQ)	Food Chains and Food Webs (Our Environment)	(c) Biological magnification	<input type="checkbox"/> 1
Q17	1m (A-R)	Types of Chemical Reactions (Chemical Reactions and Equations)	(c) Assertion (A) is true but Reason (R) is false.	<input type="checkbox"/> 1
Q18	1m (A-R)	Heredity (Heredity)	(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).	<input type="checkbox"/> 1
Q19	1m (A-R)	Magnetic Field and Field Lines (Magnetic Effects of Electric Current)	(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).	<input type="checkbox"/> 1
Q20	1m (A-R)	Ecosystem (Our Environment)	(c) Assertion (A) is true but Reason (R) is false.	<input type="checkbox"/> 1
Q21	2m (VSA)	Homologous Series (Carbon and its Compounds)	<input checked="" type="checkbox"/> (a) <u>Write the molecular formula (1m)</u> <input checked="" type="checkbox"/> (b) (i) <u>Name the type of bond (½m)</u> (ii) <u>Write the correct melting point (½m)</u>	<input type="checkbox"/> 2
Q22	2m (VSA)	Heredity (Heredity)	<input checked="" type="checkbox"/> <u>Explain what happens in F₁ generation (1m)</u> <input checked="" type="checkbox"/> <u>Explain what happens in F₂ generation (1m)</u>	<input type="checkbox"/> 2
Q23	2m (VSA)	Nutrition and Digestion (Life Processes)	<input checked="" type="checkbox"/> <u>Function of Gall bladder (1m)</u> <input checked="" type="checkbox"/> <u>Impact of absence of Gall bladder (1m)</u> ⚠ Key focus: Bile, emulsification of fats	<input type="checkbox"/> 2
Q23 (OR)		Excretion (Life Processes)	<input checked="" type="checkbox"/> <u>Write two substances (½m + ½m)</u> <input checked="" type="checkbox"/> <u>Two parameters (½m + ½m)</u>	OR <input type="checkbox"/> 2
Q24	2m (VSA)	Refractive Index (Light: Reflection and Refraction)	<input checked="" type="checkbox"/> (a) <u>Identify the case, explain (½m + ½m)</u> <input checked="" type="checkbox"/> (b) <u>Identify the case, explain (½m + ½m)</u>	<input type="checkbox"/> 2
Q25	2m (VSA)	Combination of Resistors (Electricity)	<input checked="" type="checkbox"/> <u>Draw circuit diagram with labellings (1m + 1m)</u> ⚠ Make sure that the direction of current mentioned in the circuit diagram is correct and the key is closed. Students usually make such small mistakes and lose marks.	<input type="checkbox"/> 2
Q25 (OR)		Power (Electricity)	<input checked="" type="checkbox"/> (a) <u>Write formula, calculate and write final answer (½m + ½m)</u> <input checked="" type="checkbox"/> (b) <u>Write formula, calculate and write final answer (½m + ½m)</u>	OR <input type="checkbox"/> 2
Q26	2m (VSA)	Food Chains and Food Webs (Our Environment)	<input checked="" type="checkbox"/> (a) <u>Identify the producer (1m)</u> <input checked="" type="checkbox"/> (b) <u>Name and explain the process (1m)</u>	<input type="checkbox"/> 2
Q27	3m (SA)	Versatile Nature of Carbon (Carbon and its Compounds)	<input checked="" type="checkbox"/> <u>List any three properties (1m + 1m + 1m)</u>	<input type="checkbox"/> 3

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Q28	3m (SA)	Reactivity (Metals and Non-Metals)	<ul style="list-style-type: none"> ✓ <u>Write reason</u> (1½m) ✓ <u>Write chemical equation</u> (1½m) 	<input type="checkbox"/> 3
Q28 (OR)		Ionic Compounds (Metals and Non-Metals)	<ul style="list-style-type: none"> ✓ <u>Explain how compound is formed</u> (1½m) ✓ <u>Draw structural diagram</u> (1½m) <p>💡 You should know the atomic number and electronic configuration of elements in order to solve the question in correct manner.</p>	OR <input type="checkbox"/> 3
Q29	3m (SA)	Excretion (Life Processes)	<ul style="list-style-type: none"> ✓ (a) <u>Write functions</u> (1m) ✓ (b) <u>Name the filtration unit</u> (1m) ✓ (c) <u>Name two substances that are selectively re-absorbed</u> (½m + ½m) 	<input type="checkbox"/> 3
Q30	3m (SA)	Inheritance (Heredity)	<ul style="list-style-type: none"> ✓ <u>Explain using two possible situations, draw genetic cross for each</u> (1½m + 1½m) <p>⚠️ Key focus: Genotypes, alleles, dominant and recessive traits</p>	<input type="checkbox"/> 3
Q31	3m (SA)	Image Formation (Light: Reflection and Refraction)	<ul style="list-style-type: none"> ✓ <u>Write given values, formula, calculate and final answer</u> (½m + ½m + 1½m + ½m) 	<input type="checkbox"/> 3
Q32	3m (SA)	Circuit Diagram (Electricity)	<ul style="list-style-type: none"> ✓ (a) <u>Name the type of combination</u> (1m) ✓ (b) <u>Write how much current is flowing</u> (1m) ✓ (c) <u>Write the ammeter reading</u> (1m) 	<input type="checkbox"/> 3
Q33	3m (SA)	Electric Circuit (Electricity)	<ul style="list-style-type: none"> ✓ <u>Write whether it is correct or incorrect</u> (½m) ✓ <u>Give reason for your answer</u> (1½m) ✓ <u>Draw correct figure</u> in case if the figure is wrong (1m) 	<input type="checkbox"/> 3
Q34	5m (LA)	Chemical Reactions (Chemical Reaction and Equations)	<ul style="list-style-type: none"> ✓ <u>Identify X, Y, A and B</u> (½m + ½m + ½m + ½m) ✓ <u>Write the chemical equations</u> (3m) 	<input type="checkbox"/> 5
Q34 (OR)		Chemical Reactions (Chemical Reaction and Equations)	<ul style="list-style-type: none"> ✓ (a) <u>Identify X, Y, and Z</u> (½m + ½m + ½m) <u>Write chemical reactions</u> (½m + ½m + ½m) ✓ (b) <u>Write how can we obtain Y from Z</u> (1m) ✓ (c) <u>Write any two uses of compound Z</u> (½m + ½ m) 	OR <input type="checkbox"/> 5
Q35	5m (LA)	Asexual Reproduction (How do Organisms Reproduce?)	<ul style="list-style-type: none"> ✓ <u>Define</u> (1m) ✓ <u>Write three benefits</u> (1m + 1m + 1m) ✓ <u>Identify</u> two plants (½m + ½m) 	<input type="checkbox"/> 5
Q35 (OR)		Sexual Reproduction (How do Organisms Reproduce?)	<ul style="list-style-type: none"> ✓ <u>Name the parts</u> (½m + ½m) ✓ <u>Location</u> (½m + ½m) ✓ <u>Define female reproductive organ</u> (1m) ✓ <u>Draw figure with labellings</u> (½m + 1½m) 	OR <input type="checkbox"/> 5
Q36	5m (LA)	Heating effects of Current (Electricity)	<ul style="list-style-type: none"> ✓ (a) <u>Write given values, formula, calculate and final answer</u> (½m + ½m + 1½m + ½m) ✓ (b) <u>Write given values, formula, calculate and final answer</u> (½m + ½m + ½m + ½m) 	<input type="checkbox"/> 5
Q36 (OR)		Series and Parallel Combination (Electricity)	<ul style="list-style-type: none"> ✓ (a) <u>Write three benefits</u> (1m + 1m + 1m) ✓ (b) <u>Use formula and compare</u> (1m + 1m) 	OR <input type="checkbox"/> 5



Q37	4m (CBQ)	Hydrocarbons (Carbon and its Compounds)	<ul style="list-style-type: none"> ✓ (a) <u>Name</u> of compounds, explain ($\frac{1}{2}m + \frac{1}{2}m$) ✓ (b) <u>Identify</u> the compound, give reason ($\frac{1}{2}m + \frac{1}{2}m$) ✓ (c) <u>Justify</u> using structural formula ($1m + 1m$) <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ✓ (c) Identify B - Alkane/Alkene/Alkyne, give reason ($\frac{1}{2}m + \frac{1}{2}m$) Identify F - Alkane/Alkene/Alkyne, give reason ($\frac{1}{2}m + \frac{1}{2}m$) <p>💡 You should be clear with the concept of structural formulae of hydrocarbons. If you do not know the concept properly, you will lose marks as this will definitely result in wrong analysis.</p>	<input type="text"/> 4
Q38	4m (CBQ)	Accumulation of Variations During Reproduction (Heredity)	<ul style="list-style-type: none"> ✓ (a) <u>Identify</u> the trait and give reason ($\frac{1}{2}m + \frac{1}{2}m$) ✓ (b) <u>Genotypes</u> ($\frac{1}{2}m + \frac{1}{2}m$) ✓ (c) <u>Find</u> probability by drawing genetic cross ($1m + 1m$) <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ✓ (c) <u>Genotypes</u> and <u>show</u> genetic cross ($1m + 1m$) 	<input type="text"/> 4
Q39	4m (CBQ)	Refraction of Light (Light: Reflection and Refraction)	<ul style="list-style-type: none"> ✓ (a) <u>Type</u> of Lens ($1m$) ✓ (b) <u>Sign</u>(+/-) and <u>Reason</u> ($\frac{1}{2}m + \frac{1}{2}m$) ✓ (c) Write <u>formula</u>, <u>calculate</u> and <u>final answer</u> ($\frac{1}{2}m + \frac{1}{2}m + 1m$) <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ✓ (c) Draw <u>Ray diagram</u> with labellings ($1m + 1m$) <p>💡 Labellings should be correct and as per the question.</p>	<input type="text"/> 4
			TOTAL	80



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