

CCE RF/RR/PF/PR

A

ಕರ್ನಾಟಕ ಶಾಲಾ ಪರೀಕ್ಷೆ ಮತ್ತು ಮೌಲ್ಯನಿರ್ಣಯ ಮಂಡಲಿ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು - 560 003

**KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD,
MALLESHWARAM, BENGALURU - 560 003**

ಮಾರ್ಚ್/ಏಪ್ರಿಲ್ 2026 ರ ಪರೀಕ್ಷೆ - 1

MARCH/APRIL 2026 EXAMINATION - 1

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ಸಂಕೇತ ಸಂಖ್ಯೆ : 83-E

CODE NO. : 83-E

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ಭೌತ ವಿಜ್ಞಾನ, ರಸಾಯನ ವಿಜ್ಞಾನ ಮತ್ತು ಜೀವ ವಿಜ್ಞಾನ / Physics, Chemistry & Biology)

**(ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / ಶಾಲಾ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ / ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ /
ಖಾಸಗಿ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ)**

(Regular Fresh / Regular Repeater / Private Fresh / Private Repeater)

(ಭೌತ ವಿಜ್ಞಾನ / Physics)

(ಇಂಗ್ಲಿಷ್ ಮಾಧ್ಯಮ / English Medium)

ದಿನಾಂಕ : 23. 03. 2026]

[ಗರಿಷ್ಠ ಅಂಕಗಳು : 80

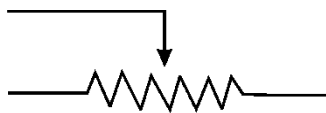
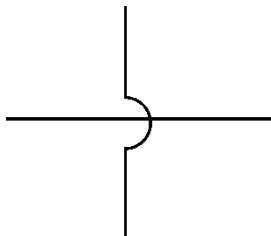
Date : 23. 03. 2026]

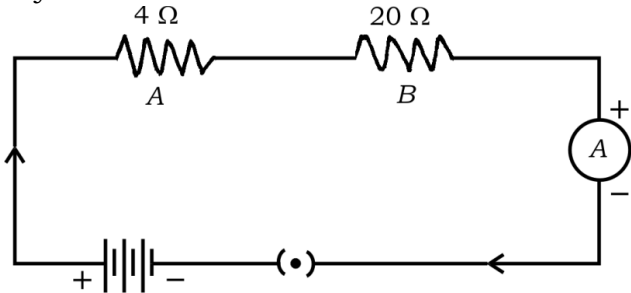
[Max. Marks : 80

PART - A

(Physics)

Qn. Nos.	Value Points	Total
I.	Multiple choice questions : $2 \times 1 = 2$	
1.	The power of a lens is + 2D. Then the focal length of that lens is (A) 0.5 m (B) 2 m (C) 0.2 m (D) 5 m Ans. : (A) 0.5 m	1

Qn. Nos.	Value Points	Total										
2.	The resistivities of some materials at 20°C are given in the table below : <table><tr><th>Materials</th><th>Resistivity (Ωm)</th></tr><tr><td>K</td><td>2.63×10^{-8}</td></tr><tr><td>L</td><td>5.20×10^{-8}</td></tr><tr><td>M</td><td>1.60×10^{-8}</td></tr><tr><td>N</td><td>6.84×10^{-8}</td></tr></table> The best conductor of electricity among these materials is (A) N (B) K (C) M (D) L Ans. : (C) M	Materials	Resistivity (Ωm)	K	2.63×10^{-8}	L	5.20×10^{-8}	M	1.60×10^{-8}	N	6.84×10^{-8}	1
Materials	Resistivity (Ωm)											
K	2.63×10^{-8}											
L	5.20×10^{-8}											
M	1.60×10^{-8}											
N	6.84×10^{-8}											
II.	Answer the following questions : 2 × 1 = 2											
3.	Write the symbol diagram of the following components used in the electric circuit : i) Rheostat ii) Wire crossing without joining Ans. : i) Rheostat OR ii) Wires crossing without joining 	$\frac{1}{2}$ $\frac{1}{2}$ 1										
4.	How many times the magnetic field produced by a circular coil of a conductor having 5 turns is larger than the magnetic field produced by a coil of 1 turn ? Ans. : Larger by 5 times	1										

Qn. Nos.	Value Points	Total
III.	Answer the following questions : $3 \times 2 = 6$	
5.	Observe the figure given below. Among the resistors A and B, through which of the resistors more current flows ? Give reason for your answer.  <i>Ans. :</i> ★ Same current flows through each resistor A and B. 1 ★ In a series combination of resistors the current is same in every part of the circuit. 1	2
6.	What is the colour of danger signal lights ? Why is that colour used ? <i>Ans. :</i> ★ Red 1 ★ Because red colour scatters the least by fog and smoke and is visible even from long distances. 1	2
7.	a) State Fleming's left hand rule. b) What is the potential difference between the live wire and the neutral wire in domestic electric circuit in our country ? <i>Ans. :</i> a) Stretch the thumb, fore finger and middle finger of your left hand such that they are mutually perpendicular. If the fore finger points in the direction of magnetic field and the middle finger in the direction of current, then the thumb will point in the direction of motion or the force acting on the conductor. 1 b) In our country, the potential difference between live wire and neutral wire is 220 V. 1	2

Qn. Nos.	Value Points	Total
IV.	Answer the following questions : $3 \times 3 = 9$	
8.	What is presbyopia ? What are the reasons for this defect ? Suggest a remedy for this defect. OR What is short-sightedness ? What are the reasons for this defect ? How can this defect be corrected ? <i>Ans. :</i> ★ The condition of the eye in which a person cannot see closer / farer objects clearly : / Suffer from both myopia and hypermetropia $\frac{1}{2}$ Reason : ★ The capacity of power of accommodation decreases with aging. $\frac{1}{2}$ ★ Diminishing flexibility of the eye lens $\frac{1}{2}$ ★ Gradual weakening of the ciliary muscles $\frac{1}{2}$ (Any <i>two</i> reasons) Remedy : Use of bifocal lenses 1 OR A person can see nearby objects clearly but cannot see distant objects distinctly. 1 Reasons : i) Excessive curvature of the eye lens ii) Elongation of the eyeball $\frac{1}{2} + \frac{1}{2}$ Remedy : Use of concave lens of suitable power. 1	3
9.	What is fuse ? What are the reasons for causing overload and short circuit in an electric circuit ? OR What is earth wire ? Explain the function of the earth wire. <i>Ans. :</i> A safety device that breaks the circuit when current larger than the specified value flows through the circuit. 1	3

Qn. Nos.	Value Points	Total
	★ When the live and neutral wire in the circuit come into direct contact. ★ When the insulating covering on the wires is damaged ★ When there is a fault in the electrical appliances ★ When many appliances are connected to the same socket. $(4 \times \frac{1}{2}) = 2$ OR A conducting wire used to connect the appliances with metallic body to the earth. 1 ★ During any leakage of current to the metallic body of the appliances, it keeps its potential equal to that of the earth and ★ Protects the user from electric shock. $(1 + 1) = 2$	3
10.	Draw the ray diagram that shows the image formation when an object is kept at 'C' of a concave mirror. Write the nature of the image formed. [C : Centre of curvature] Ans. : Mirror — $\frac{1}{2}$ Correct position of the object — $\frac{1}{2}$ Correct position of the image — $\frac{1}{2}$ Correct rays — $\frac{1}{2}$ Nature of the image : Real and inverted. $\frac{1}{2} + \frac{1}{2}$	3

Qn. Nos.	Value Points	Total								
V.	Answer the following questions : 2 × 4 = 8									
11.	a) State the laws of refraction of light. b) Mention any two differences between convex mirror and convex lens. OR a) What is magnification ? Write the formula used to calculate the magnification of the image produced by a lens. b) State the laws of reflection of light. Ans. : a) i) The incident ray, the refracted ray and the normal to the interface of two transparent media at the point of incidence, all lie in the same plane. 1 ii) The ratio of sine of angle of incidence to the sine of angle of refraction is a constant for the light of a given colour and for the given pair of media. / $\frac{\sin i}{\sin r} = \text{Constant}$ 1 b) <table><tr><th>Convex mirror</th><th>Convex lens</th></tr><tr><td>★ The reflected rays appears to come from a point on the principal axis</td><td>★ The refracted rays converge to a point on the principal axis</td></tr><tr><td>★ Image formed is virtual and erect</td><td>★ Image formed is real and inverted / virtual and erect.</td></tr><tr><td>★ Images always diminished</td><td>★ Size of the image depends on position of the object.</td></tr></table> (Any two) 1 + 1 [Note : Give marks if suitable uses are written.] OR	Convex mirror	Convex lens	★ The reflected rays appears to come from a point on the principal axis	★ The refracted rays converge to a point on the principal axis	★ Image formed is virtual and erect	★ Image formed is real and inverted / virtual and erect.	★ Images always diminished	★ Size of the image depends on position of the object.	
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★ The reflected rays appears to come from a point on the principal axis	★ The refracted rays converge to a point on the principal axis									
★ Image formed is virtual and erect	★ Image formed is real and inverted / virtual and erect.									
★ Images always diminished	★ Size of the image depends on position of the object.									

Qn. Nos.	Value Points	Total
	a) Magnification is the ratio of the size of an image to the size of an object. 1 $m = \frac{h'}{h} \quad / \quad m = \frac{v}{u} \quad 1$ b) Laws of reflection : i) The angle of incidence is equal to the angle of reflection. 1 ii) The incident ray, the normal to the mirror at the point of incidence and the reflected ray, all lie in the same plane. 1	4
12.	Two resistors having resistance 2Ω are first connected in series and then in parallel in an electric circuit to a potential difference of 6 V. Find the electric power of this circuit in series and parallel combinations. Ans. : $V = 6 \text{ V} \quad R_1 = 2 \Omega \quad R_2 = 2 \Omega$ $R_s = R_1 + R_2 \quad 1$ $R_s = 2 + 2 = 4 \Omega$ $\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} \quad 1$ $\frac{1}{R_p} = \frac{1}{2} + \frac{1}{2} = 1 \Omega$ $R_p = 1 \Omega$ $P_s = \frac{V^2}{R_s} = \frac{6^2}{4} = \frac{36}{4} = 9 \text{ W} \quad 1$ $P_p = \frac{V^2}{R_p} = \frac{6^2}{1} = \frac{36}{1} = 36 \text{ W} \quad 1$ Alternate method of solving the problem. $V = 6 \text{ V} \quad R_1 = 2 \Omega \quad R_2 = 2 \Omega$ $R_s = R_1 + R_2 \quad 1$	

Qn. Nos.	Value Points	Total
	$R_s = 2 + 2 = 4 \Omega$ $V = I_s R_s$ $I_s = \frac{V}{R_s} = \frac{6}{4} = 1.5 \text{ A}$ $\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2}$ $\frac{1}{R_p} = \frac{1}{2} + \frac{1}{2} = 1 \Omega$ $R_p = 1 \Omega$ $V = I_p R_p$ $I_p = \frac{V}{R_p} = \frac{6}{1} = 6 \text{ A}$ $P_s = V \cdot I_s$ $P_s = 6 \times 1.5 = 9 \text{ W}$ $P_p = V \cdot I_p$ $P_p = 6 \times 6 = 36 \text{ W}$	 1 1 1 4

CCE RF/RR/PF/PR

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ಕರ್ನಾಟಕ ಶಾಲಾ ಪರೀಕ್ಷೆ ಮತ್ತು ಮೌಲ್ಯನಿರ್ಣಯ ಮಂಡಲಿ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು - 560 003

**KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD,
MALLESHWARAM, BENGALURU - 560 003**

ಮಾರ್ಚ್/ಏಪ್ರಿಲ್ 2026 ರ ಪರೀಕ್ಷೆ - 1

MARCH/APRIL 2026 EXAMINATION - 1

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ಸಂಕೇತ ಸಂಖ್ಯೆ : 83-E

CODE No. : 83-E

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ಭೌತ ವಿಜ್ಞಾನ, ರಸಾಯನ ವಿಜ್ಞಾನ ಮತ್ತು ಜೀವ ವಿಜ್ಞಾನ / Physics, Chemistry & Biology)

**(ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / ಶಾಲಾ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ / ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ /
ಖಾಸಗಿ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ)**

(Regular Fresh / Regular Repeater / Private Fresh / Private Repeater)

(ರಸಾಯನ ವಿಜ್ಞಾನ / Chemistry)

(ಇಂಗ್ಲಿಷ್ ಮಾಧ್ಯಮ / English Medium)

ದಿನಾಂಕ : 23. 03. 2026]

[ಗರಿಷ್ಠ ಅಂಕಗಳು : 80

Date : 23. 03. 2026]

[Max. Marks : 80

PART - B

(Chemistry)

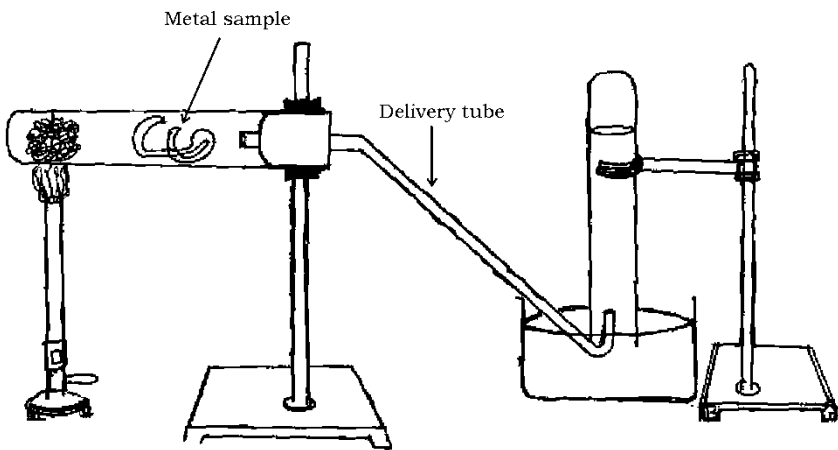
Qn. Nos.	Value Points	Total
VI.	Multiple choice questions : 3 × 1 = 3	
13.	The gas liberated when dilute sulphuric acid is added to zinc is (A) Oxygen (B) Hydrogen (C) Nitrogen (D) Chlorine Ans. : (B) Hydrogen	1

Qn. Nos.	Value Points	Total
14.	To make pure iron hard and strong, (A) it will be fused with some other metals (B) anodisation will be done (C) zinc will be added (D) carbon will be added in definite proportion Ans. : (D) carbon will be added in definite proportion	1
15.	The unique property of carbon to form a large molecule by forming bonds with other carbon atoms is (A) Tetravalency (B) Inflammability (C) Catenation (D) Allotropism Ans. : (C) Catenation	1
VII.	Answer the following questions : $3 \times 1 = 3$	
16.	How many single and double bonds are present in C_3H_7COOH molecule ? Ans. : ★ 11 / 12 — Single bonds ★ 1 — Double bond $2 \times \frac{1}{2}$ [Note : If – OH group splitted, then 12 single bonds. Since text book is the source students answer 11 single bonds. Consider both 11/12 single bonds]	1
17.	Observe the given equation. $\boxed{W} \text{ Pb } (\text{NO}_3)_2 \longrightarrow \boxed{X} \text{ PbO} + \boxed{Y} \text{ NO}_2 + \boxed{Z} \text{ O}_2$ Which numbers respectively will be in the positions W, X, Y and Z when this equation is balanced ? Ans. : 2, 2, 4, 1.	1

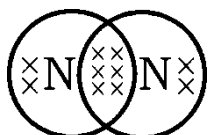
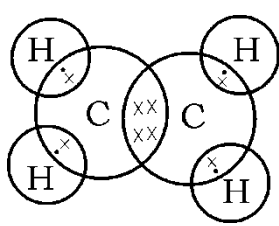
Qn. Nos.	Value Points	Total
18.	Which metal among aluminium and copper is used as reducing agent in the extraction of manganese metal ? Why ? Ans. : ★ Aluminium ★ Because aluminium is more reactive than manganese / Copper is less reactive than manganese. / Aluminium has more affinity with oxygen than the copper.	1
VIII.	Answer the following questions : $3 \times 2 = 6$	
19.	While diluting an acid, water should not be added to acid. Why ? Ans. : ★ Process of diluting an acid is highly exothermic. $\frac{1}{2}$ ★ The heat generated may cause the mixture to splash out and cause burns 1 ★ The glass container may also break due to excess heating. $\frac{1}{2}$	2
20.	Write the name, molecular formula and structural formula of the compound obtained when one hydrogen atom of ethane is replaced by -CHO group. Ans. : ★ Propanol $\frac{1}{2}$ ★ $\text{CH}_3\text{CH}_2\text{CHO}$ / $\text{C}_2\text{H}_5\text{CHO}$ $\frac{1}{2}$ ★ $\begin{array}{ccccccc} & \text{H} & & \text{H} & & \text{O} & \\ & & & & & & \\ \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{H} \\ & & & & & & \\ & \text{H} & & \text{H} & & & \end{array}$	1
		2

Qn. Nos.	Value Points	Total					
21.	Write any two differences between roasting and calcination. OR Show the formation of sodium chloride molecule by the transfer of electrons with the help of electron dot diagram. Ans. : <table><tr><th>Roasting</th><th>Calcination</th></tr><tr><td>★ Process of enrichment of sulphide ore</td><td>★ Process of enrichment of carbonate ore</td></tr><tr><td>★ Ores are heated strongly in the presence of excess air</td><td>★ Ores are heated strongly in limited air</td></tr></table> 1 + 1 OR Na (2, 8, 1) → Na⁺ + e⁻ (2, 8) Cl + e⁻ (2, 8, 7) → Cl⁻ (2, 8) Na • + •••• <	Roasting	Calcination	★ Process of enrichment of sulphide ore	★ Process of enrichment of carbonate ore	★ Ores are heated strongly in the presence of excess air	★ Ores are heated strongly in limited air
Roasting	Calcination						
★ Process of enrichment of sulphide ore	★ Process of enrichment of carbonate ore						
★ Ores are heated strongly in the presence of excess air	★ Ores are heated strongly in limited air						

Qn. Nos.	Value Points	Total
	<i>Ans. :</i> i) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ / Na_2CO_3 $\frac{1}{2}$ ★ Used in glass, soap and paper industries ★ Used in the manufacture of sodium compounds such as borax ★ Used as a cleaning agent for domestic purpose ★ Used to remove permanent hardness of water (Any two) $\frac{1}{2} + \frac{1}{2}$ ii) $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ $\frac{1}{2}$ ★ As plaster for supporting fractured bones in the right position. ★ For making toys and decorative materials ★ For making surfaces smooth. (Any two) $\frac{1}{2} + \frac{1}{2}$ OR a) Water of crystallisation is the fixed number of water molecules present in one formula unit of a salt. 1 b) i) Baking soda / Sodium hydrogen (bi) Carbonate / NaHCO_3. 1 ii) Bleaching powder / Calcium oxychloride / CaOCl_2. 1	3
23.	Observe the solutions of compounds given below and answer the following questions : $\text{Pb}(\text{NO}_3)_2$, BaCl_2, Na_2SO_4, KI. a) Which solutions are to be reacted with each other to get white precipitate ? Mention the type of this reaction.	

Qn. Nos.	Value Points	Total
b)	Which positive and negative ions combine to form this precipitate ?	
	Ans. :	
a)	Na_2SO_4 and BaCl_2 .	1
	Chemical double displacement / Precipitation reaction	1
b)	Ba^{2+} and SO_4^{2-} .	1
24.	Draw the diagram of the arrangement of the apparatus used to show the action of steam on a metal. Label the following parts :	3
	i) Metal sample	
	ii) Delivery tube	
	Ans. :	
		
	Diagram :	2
	Parts :	$2 \times \frac{1}{2}$

Qn. Nos.	Value Points	Total
X.	Answer the following question : 1 × 4 = 4	
25.	a) Carbon could not form C^{4-} anion or C^{4+} cations. Why ? b) Explain the mechanism of the cleaning action of soap. OR a) Write the electron dot structures of the following molecules : i) Nitrogen molecule ii) Ethene molecule. b) Explain the oxidation reaction of converting ethanol into ethanoic acid. <i>Ans. :</i> a) ★ Carbon could not form C^{4-} anion by gaining four electrons, because it would be difficult for the nucleus with six protons to hold on to ten electrons. 1 ★ Could not form C^{4+} cation by losing four electrons because it would require a large amount of energy to remove four electrons. 1 b) ★ The ionic end of soap interacts with water while carbon chain interact with oil to form 'micelles'. 1 ★ This forms an emulsion in water. $\frac{1}{2}$ ★ The soap micelle helps in pulling out the dirt in water. $\frac{1}{2}$ OR	4

Qn. Nos.	Value Points	Total
a)		
i)		1
ii)		1
b)	When Ethanol is strongly heated in the presence of alkaline potassium permanganate or acidified potassium dichromate, this oxidises to form ethanoic acid /	2
	$\text{CH}_3\text{CH}_2\text{OH} \xrightarrow[\text{or acidified K}_2\text{Cr}_2\text{O}_7 + \text{heat}]{\text{alkaline KMnO}_4 + \text{heat}} \text{CH}_3\text{COOH}$	4

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**KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD,
MALLESHWARAM, BENGALURU - 560 003**

ಮಾರ್ಚ್/ಏಪ್ರಿಲ್ 2026 ರ ಪರೀಕ್ಷೆ - 1

MARCH/APRIL 2026 EXAMINATION - 1

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E**

CODE No. : **83-E**

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ಭೌತ ವಿಜ್ಞಾನ, ರಸಾಯನ ವಿಜ್ಞಾನ ಮತ್ತು ಜೀವ ವಿಜ್ಞಾನ / **Physics, Chemistry & Biology**)

(ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / ಶಾಲಾ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ / ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ /
ಖಾಸಗಿ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ)

(**Regular Fresh / Regular Repeater / Private Fresh / Private Repeater**)

(ಜೀವ ವಿಜ್ಞಾನ / **Biology**)

(ಇಂಗ್ಲಿಷ್ ಮಾಧ್ಯಮ / **English Medium**)

ದಿನಾಂಕ : **23. 03. 2026**]

[ಗರಿಷ್ಠ ಅಂಕಗಳು : **80**

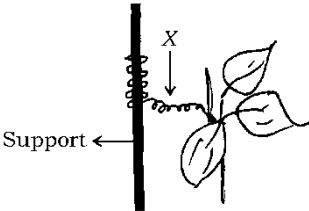
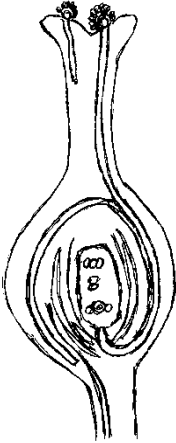
Date : 23. 03. 2026]

[**Max. Marks : 80**

PART - C

(**Biology**)

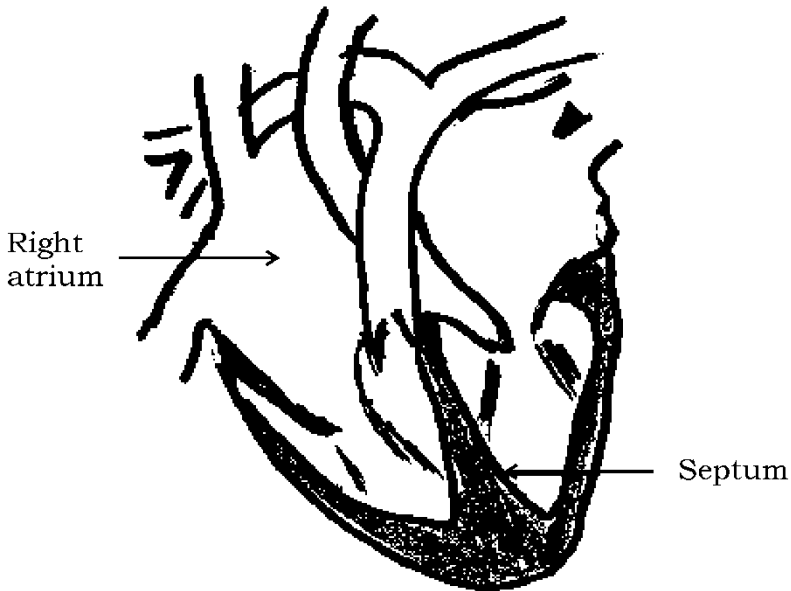
Qn. Nos.	Value Points	Total
XI.	Multiple choice questions :	3 × 1 = 3
26.	The important role of stomata in transportation of water is (A) performing continuous transpiration (B) absorbing carbon dioxide (C) releasing oxygen (D) creating upward tension Ans. : (D) creating upward tension	1

Qn. Nos.	Value Points	Total
27.	As the food moves forward in the human digestive system the enzymes that help for the digestion respectively are (A) Pepsin → Trypsin → Lypase (B) Amylase → Pepsin → Lypase (C) Lypase → Amylase → Trypsin (D) Trypsin → Pepsin → Amylase Ans. : (B) Amylase → Pepsin → Lypase	1
28.	Observe the given diagram. The response shown by part X is  (A) Positive thigmotropism and directional movement (B) Positive geotropism and independent movement (C) Positive phototropism and non-directional movement (D) Positive chemotropism and independent movement Ans. : (A) Positive thigmotropism and directional movement	1
XII.	Answer the following questions :	3 × 1 = 3
29.	Draw the diagram that shows the germination of pollen on stigma. Ans. : 	1

Qn. Nos.	Value Points	Total
30.	Identify the group of plants that can be grown by vegetative propagation among the following. <i>P</i> : Rose, Jackfruit, Bryophyllum <i>Q</i> : Money plant, Mustard, Watermelon <i>R</i> : Banana, Rose, Hibiscus <i>S</i> : Papaya, Hibiscus, Mustard. <i>Ans.</i> : ★ R / Banana, Rose, Hibiscus.	1
31.	The number of male turtles in the sea shore is decreasing nowadays. What is the reason for this ? <i>Ans.</i> : Sex is not genetically determined in turtles, sex of the zygote changes to female by the influence of rising temperature in sea shores. / due to global warming.	1
XIII.	Answer the following questions : $2 \times 2 = 4$	
32.	Name the glands that secrete the following hormones and mention the function of these hormones. i) Insulin ii) Thyroxin. OR Mention two important plant hormones that help for the growth of the stem. Give an example for the hormone that stops the growth of the plant. <i>Ans.</i> : i) <i>Insulin</i> : ★ Pancreas $\frac{1}{2}$ ★ Regulate the blood sugar level. $\frac{1}{2}$ ii) <i>Thyroxin</i> : ★ Thyroid gland $\frac{1}{2}$ ★ Regulates the carbohydrate, protein and fat metabolism. $\frac{1}{2}$ OR	2

Qn. Nos.	Value Points	Total
	★ Auxin $\frac{1}{2}$ Gibberellin $\frac{1}{2}$ ★ Absciscic acid 1	2
33.	The rate of respiration is more in which organism among Human and Fish ? Why ? Ans. : ★ Fish 1 ★ Human / Terrestrial organism : The amount of oxygen in the atmosphere is more / Fish / Aquatic organism : The amount of dissolved oxygen is low in water compared to that in the atmosphere. 1	2
XIV.	Answer the following questions : $3 \times 3 = 9$	
34.	Mention the function of each part of the human brain given below : i) Cerebrum (Forebrain) ii) Cerebellum iii) Medulla Ans. : i) ★ Centre of thinking. ★ Information from receptors is interpreted. ★ Separate areas are specialised for hearing, smell, sight etc. (Any one) 1 ii) Precision of voluntary activities, maintaining posture and balance of the body. 1 iii) Control involuntary actions like blood pressure, salivation, vomiting etc. 1	3

Qn. Nos.	Value Points	Total
35.	a) Define the following : i) Food chain ii) Biomagnification. b) Mention the importance of ozone. OR a) What are biodegradable substances ? Write two examples for decomposers. b) Which synthetic chemical is responsible for the depletion of the ozone layer ? <i>Ans. :</i> a) i) A series of organisms feeding on one another in the environment. 1 ii) The accumulation of the harmful chemicals in maximum concentration at the higher trophic levels of a food chain. 1 b) It shields the surface of the earth from harmful ultraviolet radiation from the sun. 1 OR a) Substances that are broken down by biological processes. 1 <i>Examples :</i> Bacteria, Saphrophytes (fungi) $\frac{1}{2} + \frac{1}{2}$ b) Chlorofluorocarbons (CFCs) 1	3
36.	A red flowering pea plant (<i>RR</i>) is crossed with a white flowering pea plant (<i>rr</i>). Show the result of F_2 generation with the help of checker board. Write the phenotypic and genotypic ratio of the plants obtained in F_2 generation.	

Qn. Nos.	Value Points	Total									
	Ans. : F_2 generation <table border="1"> <tr> <td>Gametes</td><td>R</td><td>r</td></tr> <tr> <td>R</td><td>RR</td><td>Rr</td></tr> <tr> <td>r</td><td>Rr</td><td>rr</td></tr> </table> Phenotypic ratio : 3 : 1 Genotypic ratio : 1 : 2 : 1	Gametes	R	r	R	RR	Rr	r	Rr	rr	2 $\frac{1}{2}$ $\frac{1}{2}$ 3
Gametes	R	r									
R	RR	Rr									
r	Rr	rr									
XV.	Answer the following question :	1 × 4 = 4									
37.	Draw the diagram that shows the cross-section of human heart and label the following parts : i) Septum ii) Right atrium. Ans. :  For diagram — 2 parts —	3 $2 \times \frac{1}{2}$ 4									

Qn. Nos.	Value Points	Total
XVI.	Answer the following question : $1 \times 5 = 5$	
38.	a) How does a fertilized egg develop into a foetus in the female uterus ? How does the embryo get nourishment in mother's womb ? Explain. b) What are the changes that occur in a flower after fertilization ? OR a) List any two methods of contraception that human beings usually follow. b) How does menstrual cycle occur ? Explain. c) Write any two differences between self and cross pollination. <i>Ans. :</i> a) ★ The fertilised egg (zygote) starts dividing to form embryo. 1 ★ Embryo is implanted in the lining of the uterus, develop organs to become foetus. 1 ★ Embryo gets nutrition from the mother's blood with the help of a special tissue called placenta. 1 b) ★ Zygote divides to form an embryo within the ovule. ★ The ovule develops tough coat to form seeds. ★ The ovary grows and ripens to form a fruit ★ Petals, sepals, stamen, style and stigma fall off. $4 \times \frac{1}{2}$ OR	5

Qn. Nos.	Value Points	Total								
	a) ★ Wearing condoms on the penis ★ Covering worn in the vagina ★ Placing loop / Copper-T in the uterus ★ Pills / Changing hormonal balances ★ Applying surgical methods. (Any two) $\frac{1}{2} + \frac{1}{2}$ b) ★ If the egg is not fertilised, it lives for about one day, then the lining of the uterus slowly breaks, later. 1 ★ Everything comes out through vagina in the form of blood and mucous. 1 c) <table><tr><th>Self pollination</th><th>Cross pollination</th></tr><tr><td>★ Transfer of pollen occurs in the same flower</td><td>★ Transfer of pollen occurs from one flower to another</td></tr><tr><td>★ No need of agents</td><td>★ Need of agents</td></tr><tr><td>★ Occurs in the bisexual flower</td><td>★ Occurs in the monosexual and bisexual flower</td></tr></table> (Any two) 1 + 1	Self pollination	Cross pollination	★ Transfer of pollen occurs in the same flower	★ Transfer of pollen occurs from one flower to another	★ No need of agents	★ Need of agents	★ Occurs in the bisexual flower	★ Occurs in the monosexual and bisexual flower	5
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