



Instructions:

1. This paper consists of Part-A & Part-B.
2. Part-A contains questions from Physical Science and Part-B contains from Biological Science.
3. Part-A & Part-B contains 4 sections each.
4. There are 33 questions in the paper.
5. There is internal choice in Section-IV of Part-A & Part-B
6. Write all the questions visibly & legibly. 7. 15 minutes are given for reading the question paper.

PART-A
SECTION-1

Note:

- 1) Answer ALL the questions. 2) Each Question carries 1 Mark.

1. Define Temperature?
2. What is the role of furnace in metallurgy ?
3. How is bleaching powder manufactured ? Write the equation .
4. Define accommodation of lens?
5. Define Lenz's Law?
6. Write the general electronic configuration of f-block elements.

SECTION -II

Note:

- 1) Answer All the Questions. 2) Each Question carries 2 Marks.

7. Find the absolute refractive index of water if it's critical angle is 48.5° ($\sin 48.5^\circ \cong 0.75$)
8. Write the name of the ores of the following (a) iron (b) zinc
9. State Kirchhoff's of junction law.
10. Define bond angle

SECTION -III

Note:

- 1) Answer All the Questions. 2) Each Question carries 4 Marks.

11. How do you verify experimentally that $\sin i / \sin r$ is a constant?
12. Explain the correction of the eye defect Hypermetropia?
13. Describe the cleansing action of soap
14. Give the structure and hybridisation of (a) H_2O (b) $BeCl_2$

SECTION -IV

Note:

- 1) Answer All the Questions. 2) Each Question has internal choice.

- 3) Each Question carries 8 Marks.

15. (a) Draw the ray diagram & explain the nature of image
(i) object at focus (ii) object at centre of curvature (iii) object placed at ∞

OR

- (b) (i) Explain the working of AC electric generator with neat diagram? (ii) Derive $R = \rho l/A$

16. (a) Does acid solutions conduct electricity? Prove it by showing neat diagram.

OR

- (b) Fill the following gaps

Orbital	n	l	m_l	m_s
$4s^2$	4	-	0	-
-	5	0	0	-
$3d^4$	-	-	1	+1/2
$5f^3$	-	3	-	+1/2

PART-B
SECTION -I

Note:

6 × 1 = 6 M

1) Answer All the Questions. 2) Each Question carries 1 Mark.

17. Give an example of an enzyme present in Gastric Juice ?
18. Stomata : Leaves :: Lenticels : _____
19. He dissected the heart of dead people and studied valves between each atrium and its ventricle. Who is he ?
20. Which of the following statement is correct ?
- a) In an aquatic food chain, the pyramid of biomass is inverted.
b) In an aquatic food chain, the pyramid of biomass is upright.
21. Fill the gap with appropriate word ?

Inheritance of Acquired characters

Lamarckism

Natural selection

?

22. Jatropha curcas seeds are used for the production of _____
- a) Natural gas b) Bio fuel c) Petrole d) Diesel

SECTION -II

Note:

4 × 2 = 8 M

1) Answer All the Questions. 2) Each Question carries 2 Marks.

23. Write two differences between hormone and Enzyme ?
24. If you visit a Doctor what questions do you ask about 'Diabetes Mellitus'?
25. A person suffering from Irreversible kidney failure, where his body is filled with extra water and waste products. What is the name of this condition.
26. How plants send out waste products from their body ?

SECTION -III

Note:

4 × 4 = 16 M

1) Answer All the Questions. 2) Each Question carries 4 Marks.

27. Write a short note on pyramid of Number ?
28. What are your observations in combustion of sugar activity ?
29. Complete following table

S.No.	Enzyme substance	Secreted by	Digestive Juice
1.	Ptyalin		
2.	Trypsin		

30. Write 2 slogans about forest.

SECTION -IV

Note:

3 × 8 = 24 M

1) Answer All the Questions. 2) Each Question has internal choice.

3) Each Question carries 8 Marks.

31. a) Explain the process of Transportation of gases through the blood ?

OR

b) Write the difference between grafting and Layering.

32. a) What is the function of peristalsis in these parts ?

i) Oesophagus ii) Stomach iii) Small intestine iv) Large Intestine

OR

b) What is the law of independent assortment ? Explain with an example.

33. a) Draw a neat labeled diagram of Internal structure of kidney ?

OR

b) Draw a neat labeled diagram of structure of an Ovule ?

THE END