

Full Portion Test - 1

Standard X
SCIENCE

Time : 3.00 hrs.

Marks: 75

Instructions: i) Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.

ii) Use Blue or Black ink to write and underline and pencil to draw diagrams.

Note : This question paper contains four parts.

PART - I

12x1=12

Note: i) Answer all the questions.

ii) Choose the most suitable answer from the given four alternatives and write the option code with the corresponding answer.

- In which of the following sport the turning of effect of force used
a) swimming b) tennis c) cycling d) hockey
- The value of univesal gas constant
a) $3.81 \text{ J mol}^{-1} \text{ K}^{-1}$ b) $8.30 \text{ J mol}^{-1} \text{ K}^{-1}$ c) $1.38 \text{ J mol}^{-1} \text{ K}^{-1}$ d) $8.31 \text{ J mol}^{-1} \text{ K}^{-1}$
- The frequency, which is audible to the human ear is
a) 50 kHz b) 20 kHz c) 15000 kHz d) 10000 kHz
- Kamini-reactor is located at
a) Kalpakam b) Koodankulam c) Mumbai d) Rajasthan
- Noble gases have electron affinity.
a) Low b) Very low c) High d) Zero
- Which of the following is the universal solvent?
a) Acetone b) Benzene c) Water d) Alcohol
- TEM in soaps represents
a) mineral b) vitamin c) fatty acid d) carbohydrate
- The brain of leech lies above the
a) mouth b) buccal cavity c) pharynx d) crop
- Nodes of Ranvier is found is
a) muscles b) axons c) dendrites d) cyton
- Sun bird pollinates flowers of
a) Gladioli b) Silk cotton c) Grass d) Cacti
- We can cut the DNA with the help of
a) scissors b) restriction endonucleases c) knife d) RNAase
- Green house effect refers to
a) cooling of earth b) trapping of UV rays c) cultivation of plants d) warming of earth

PART - II

Note: i) Answer any seven questions.

ii) Question No. 22 is compulsory.

7x2=14

- What is co-efficient of cubical expansion?
- Match the following.
i) Electric current - a) ohm
ii) Potential difference - b) ampere
iii) Resistance - c) watt
iv) Electric power - d) volt
- State two conditions necessary for rusting of iron.
- Why does the reaction rate of a reaction increase on raising the temperature?

17. Draw the diagram and label the following parts.
(Ribosomes, Cristae, Matrix, DNA)



18. State whether the statements are true or false. Correct the false statement.

- a) The form of sugar transported through the phloem is glucose.
- b) When guard cells lose water the stoma opens.

19. Define Endocrinology.

20. What do you understand by the term phenotype and genotype?

21. What is scratch?

22. An object is placed at a distance 20cm from a convex lens of focal length 10 cm. Find the image distance and nature of the image.

PART - III

Note : i) Answer any seven questions.

ii) Question No. 32 is compulsory.

7x4=28

23. Describe rocket propulsion.

24. Differentiate the eye defects : Myopia and Hypermetropia

25. What are the factors that affect the speed of sound in gases?

26. a) What happens when $MgSO_4 \cdot 7H_2O$ is heated? Write the appropriate equation.

b) Define solubility.

27. What is called homologous series? Give any three of its characteristics.

28. List out the parasitic adaptations of leech.

29. Differentiate between :

a) Voluntary and involuntary actions

b) Myelinated and non-myelinated nerve fibres.

30. Define Ethnobotany and its importance.

31. What precautions can be taken for preventing heart diseases?

32. a) Find the percentage of nitrogen in Ammonia.

b) Calculate the number of water molecule present in one drop of water which weighs 0.18g.

PART - IV

Note : i) Answer all the questions.

ii) Draw diagrams wherever necessary.

3x7=21

33. a) With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected (a) in series and (b) in parallel. (OR)

b) What is a nuclear reactor? Explain its essential parts with their functions.

34. a) i) Derive the relationship between relative molecular mass and vapour density.

ii) Define Relative atomic mass. (OR)

b) i) Explain the factors influencing the rate of reaction.

ii) What is a chemical equilibrium?

35. a) i) Differentiate Dicot stem from Monocot stem.

ii) What are casparian strips? (OR)

b) What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus.