RS - 4   **FOURTH REVISION TEST - 2025**

10 - Std   **SCIENCE**

Time : 3.00 Hrs.   SALEM (D.T)   Marks : 75

PART – I

Note: (i) Answer All the questions.   12 X 1 = 12

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

1. Inertia of a body depends on
   a) weight of the object   b) acceleration due to gravity of the planet
   c) mass of the object   d) Both a & b

2. Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens
   a) f   b) 2f   c) infinity   d) between f and 2f

3. Proton - Proton chain reaction is an example of _____
   a. Nuclear fission b. α – decay c. Nuclear fusion d. β - decay

4. The volume occupied by 1 mole of a diatomic gas at S.T.P is:
   (a) 11.2 litre (b) 5.6 litre (c) 22.4 litre (d) 44.8 litre

5. Powdered $CaCO_3$ reacts more rapidly than flaky $CaCO_3$ because of :
   (a) large surface area   (b) high pressure
   (c) high concentration   (d) high temperature

6. Rectified spirit is an aqueous solution which contains about _____ of ethanol.
   (a) 95.5 %   (b) 75.5 %   (c) 55.5 %   (d) 45.5 %

7. The xylem and phloem arranged side by side on same radius is called _____
   a) radial   b) amphivasal c) conjoint   d) None of these

8. 'Heart of heart' is called
   a) SA node   b) AV node c) Purkinje fibres   d) Bundle of His

9. Syngamy results in the formation of _____.
   a) Zoospores   b) Conidia c) Zygote   d) Chlamydospores

10. Okasaki fragments are joined together by _____.
    a) Helicase   b) DNA polymerase c) RNA primer   d) DNA ligase

11. Cancer cells are more easily damaged by radiations than normal cells because they are   a) Different in structure   b) Non-dividing
    c) Mutated Cells   d) Undergoing rapid division

12. Soil erosion is more where there is
    a) no rain fall b) low rainfall c) rain fall is high   d) none of these

PART – II

Note: Answer any seven questions. Question No.22 is compulsory.

7 X 2 = 14

13. Explain why, the ceilings of concert halls are curved.

14. Differentiate convex lens and concave lens.

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15. The aquatic animals live more in cold region Why?
16. Differentiate reversible and irreversible reactions
17. Define: Atomicity.
18. Draw and label the structure of mitochondria.
19. What are the structures involved in the protection of brain?
20. What is colostrum? How is milk production hormonally regulated ?
21. What is Scratch?
22. What will be the frequency sound having 0.20 m as its wavelength, when it travels with a speed of 331 ms⁻¹?

PART – III

Note: Answer any seven questions. Question No.32 is compulsory.

23. Describe rocket propulsion.   7 X 4 = 28
24. List the merits of LED bulb.
25. Compare the properties of alpha, beta and gamma radiations(Any 4 Only).
26. Give the salient features of "Modern atomic theory".
27. (i) What happens when $MgSO_4 .7H_2O$ is heated? Write the appropriate equation
    (ii) Define solubility.
28. How does locomotion take place in leech?
29. Enumerate the functions of blood.
30. How do you differentiate homologous organs from analogous organs?
31. State the applications of DNA fingerprinting technique.
32. Calculate the number of moles in :
    i) 27g of Al ii) 1.51×10^{23} molecules of NH_4Cl

PART - IV

Note: Answer all the questions. Draw diagrams wherever necessary.

33. (a) (i) List any five properties of light.   3 X 7 = 21
    (ii) State Soddy and Fajan's displacement law.   **(OR)**
    (b) (i) State Joule's law of heating.
    (ii) An alloy of nickel and chromium is used as the heating element. Why?
    (iii) How does a fuse wire protect electrical appliances?

34. (a) (i) How does pH play an important role in everyday life?
    (ii) Find the percentage of nitrogen in ammonia.   **(OR)**
    (b) (i) Differentiate soaps and detergents.
    (ii) What is rust? Give the equation for formation of rust.

35. (a) (i) What is respiratory quotient?
    (ii) With a neat labelled diagram explain the structure of a neuron.   **(OR)**
    (b) (i) Suggest measures to overcome the problems of an alcoholic.
    (ii) What is the importance of rainwater harvesting?

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