THENI.   (1|)

SECOND REVISION TEST - 2025

Standard X   Reg.No. ☐☐☐☐☐☐

SCIENCE

Marks : 75

Time : 3.00 hrs   Part - I   30)1)25

12 x 1 = 12

I. **Choose the correct answer:**

1. To project the rockets which of the following principle(s) is / (are) required?

   a) Newton's Third Law of Motion

   b) Newton's law of gravitation

   c) Law of conservation of linear momentum

   d) both (a) and (c)

2. If a substance is heated or cooled, the change in mass of that substance is _____.

   a) positive   b) negative

   c) zero   d) none of the above

3. The frequency, which is audible to the human ear is _____.

   a) 50 KHz   b) 20 KHz

   c) 15000 KHz   d) 10000 KHz

4. In the nucleus of $_{20}Ca^{40}$, there are _____.

   a) 20 protons and 40 neutrons   b) 20 protons and 20 neutrons

   c) 20 protons and 40 electrons   d) 40 protons and 20 electrons

5. _____ is an important metal to form amalgam.

   a) Ag   b) Hg   c) Mg   d) Al

6. The chemical equation

   $Na_2SO_{4(aq)} + BaCl_{2(aq)} \longrightarrow BaSO_{4(s)}\downarrow + 2NaCl_{(aq)}$ represents which of the following types of reaction?

   a) Neutralisation   b) Combustion

   c) Precipitation   d) Single displacement

7. Casparian strips are present in the _____ of the root.

   a) Cortex   b) Pith

   c) Pericycle   d) Endodermis

8. The segments of leech are known as _____.

 a) Metameres (Somites)   b) Proglottids

 c) Strobila   d) All of the above

9. "Heart of Heart" is called _____.

 a) SA node b) AV node c) Purkinje fibres d) Bundle of His

10. Bipolar neurons are found in _____.

 a) Retina of eye   b) Cerebral cortex

 c) Embryo   d) Respiratory epithelium

11. The _____ units form the backbone of the DNA.

 a) 5 carbon sugar b) Phosphate c) Nitrogenous base d) Sugar phosphate

12. DNA fingerprinting is based on the principle of identifying _____ sequences of DNA.

 a) Single stranded b) Mutated c) Polymorphic d) Repetitive

Part - II

II. **Answer any 7 questions. (Q.No.22 is compulsory)**   **7 x 2 = 14**

13. State Snell's law.

14. State Ohm's law.

15. State whether the following statements are true or false : If false, correct the statement

 i) An alloy is a heterogenous mixture

 ii) In a solution, the component which is present in lesser amount is called solvent

16. Name the simplest ketone and give its structural formula.

17. What is the importance of valves in the heart?

18. Identify the parts A, B, C and D.

19. Why did Mendel select pea plant for his experiments?

20. What are the contributing factors for obesity?

21. Write a short note on editor and its types?

22. $_{92}U^{235}$ experiences one α-decay and one β decay. Find number of neutrons in the final daughter nucleus that is formed.

Part - III

III. Answer any 7 questions. (Q.No.32 is compulsory)   7 x 4 = 28

23. i) Classify the types of force based on their application.

   ii) Write any four difference between mass and weight.

24. What are the advantages of LED TV over the normal TV?

25. Classify the following molecules based on their atomicity and fill in the table.

   Fluorine (F_2), Carbondioxide (CO_2), Phosphorous (P_4), Sulphur (S_8), Ammonia (NH_3), Hydrogen iodide (HI), Sulphuric acid (H_2SO_4), Methane (CH_4), Glucose ($C_6H_{12}O_6$), Carbon monoxide (CO)

Molecule	Diatomic	Triatomic	Polyatomic

26. i) *Match the following :*

   a) Functional group-OH   -   Benzene

   b) Heterocyclic   -   Alcohol

   c) Unsaturated   -   Furan

   d) Carbocyclic   -   Ethene

   ii) Differentiate between soaps and detergents.

27. i) Write a short note on Mesophyll.

   ii) Name the three basic tissue system in flowering plants.

28. Classify neurons based on its structure.

29. i) Why is Archaeopteryx considered to be a connecting link?

   ii) How can you determine the age of fossils?

30. i) Name two maize hybrids rich in amino acid lysine.

ii) State the applications of DNA fingerprinting technique.

31. What are the consequences of deforestation?

32. A solution was prepared by dissolving 25 g of sugar in 100 g of water. Calculate the mass percentage of solute.

Part - IV

IV. Answer all the questions.   3 x 7 = 21

Draw diagrams wherever necessary

33. a) i) Differentiate convex lens and concave lens. (any 3 points)

ii) Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F.

iii) Why does the sky appear in blue colour?

(OR)

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

34. a) i) The aquatic animals live more in cold region. Why?   (2)

ii) In what way hygroscopic substance differ from deliquescent substance. (5)

(OR)

b) i) Complete the following :

1)   The normal pH of human blood is _____.

2)   Chemical volcano is an example for _____ type of reaction.

ii) Explain the factors influencing the rate of a reaction.

35. a) i) What are synthetic auxins? Give example. (2)

ii) Write the difference between endocrine and exocrine gland. (3)

iii) Name the secondary sex organs in male. (2)

(OR)

b) i) Suggest measures to overcome the problems of an alcoholic.

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