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COMMON HALF YEARLY EXAMINATION - 2025

Standard X

Reg.No.

SCIENCE

Part - I

Time : 3.00 hrs *Marks : 75*

I. Choose the correct answer: 12 x 1 = 12

1. Impulse is equal to _____.
   a) rate of change of momentum b) rate of force and time
   c) change of momentum d) rate of change of mass
2. Magnification of a convex lens is _____.
   a) positive b) negative c) zero d) either positive or negative
3. SI Unit of resistance is _____.
   a) Mho b) Joule c) Ohm d) Ohm meter
4. Kamini reactor is located at _____.
   a) Kalpakkam b) Mumbai c) Koodan kulam d) Rajasthan
5. Which of the following is a triatomic molecule?
   a) Glucose b) Helium c) Carbon-di-oxide d) Hydrogen
6. _____ group contains the member of halogen family.
   a) 17th b) 15th c) 18th d) 16th
7. A solution is a _____.
   a) homogeneous b) heterogeneous
   c) homogenous and heterogeneous d) non homogeneous
8. Kreb's cycle takes place in
   a) chloroplast b) mitochondrial matrix
   c) stomata d) inner mitochondrial membrane
9. The body of leech has _____.
   a) 23 segments b) 33 segments c) 38 segments d) 30 segments
10. Heart of heart is called
    a) SA node b) AV node c) Purkinjie fibres d) Bundle of His
11. Which one is referred as "Mater Gland"?
    a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
12. The "Use and Disuse Theory" was proposed by _____.
    a) Charless Darwin b) Ernst Haeckle
    c) Jean Baptiste Lamarck d) Gregor Mendal

Part - II

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

13. State Boyle's law.
14. Explain why the ceilling of concert halls are curved.
15. Name the acid that render aluminium possive. Why?
16. What is mean by binary solution?.
17. Name the simplest keton and give its structural formula.
18. Draw and label The structure of oxysomes.
19. Write the dental formula of rabbit.

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20. Differentiate between voluntary and involuntary actions.
21. Name the type of stem cells.
22. Calculate The resistance of a conductor through which a current of 2A passes, when the potential difference between its ends is 30 V.

Part - III

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

23. Differentiate mass and weight.
24. List any five properties of light.
25. (A) Match the following: (2)

i) BARC	–	Kalpakkam
ii) Indian First Atomic Power Station	–	Apsara
iii) IGCAR	–	Mumbai
iv) First Nuclear Reactor in India	–	Tarapur

(B) When and where was The First Nuclear Reactor built? (2)

26. Differentiate reversible and irreversible reactions.
27. (A) What is rust? Give the equation for Formula of rust. (2)
(B) State two conditions necessary for rusting of iron. (2)
28. Enumerate the functions of blood.
29. Write the physiological effects of gibberellins.
30. Explain the structure of chromosome.
31. Define Ethnobotany and write its importance.
32. Calcium carbonate is decomposed on heating in the following reaction.
$CaCO_3 \rightarrow CaO + CO_2$
i) How many moles of calcium carbonate are involved in this reaction? (1)
ii) Calculate the gram molecular mass of calcium carbonate involved in this reaction. (2)
iii) How many moles of CO_2 are there in this equation? (1)

Part - IV

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

33. a) i) What is meant by Electric Current? (2)
ii) Name and define its unit. (3)
iii) Which instrument is used to measure the electric current? How should it be connect in a circuit? (2)

(OR)

b) Compare the properties of alpha, beta and gama radiations.

34. a) Write note on various factors affecting solubility.

(OR)

b) How is ethonal manufactured from sugarcane?

35. a) i) Define triple fusion (2)
ii) With a neat labelled diagram, describe the parts of a typical angiospermic ovule. (5)

(OR)

b) i) Differentiate between type 1 and type 2 diabetes mellitus. (4)
ii) How does rainwater harvesting structures recharge ground water?.(3)

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