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Register No.

Half-Yearly Examination - 2023

Marks : 75

Time : 3.00 Hrs.

SCIENCE

PART - I

Note: i) Answer all the questions.**ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.**

12x1=12

1. Impulse is equal to _____ a) rate of force and time b) Change of momentum
c) rate of change of mass d) rate of change of momentum
2. _____ is responsible for the white appearance of the cloud.
a) Rayleigh scattering b) Mie scattering c) Tyndall scattering d) Raman scattering
3. SI unit of resistance is a) mho b) joule c) ohm d) ohm meter
4. The gram molecular mass of oxygen molecule is
a) 16 g b) 17 g c) 18 g d) 32 g
5. Which of the following is not the Ore of Aluminium?
a) Haematite b) Bauxite c) Cryolite d) Corundur
6. TEM in soaps represents _____ contents in soap.
a) Mineral b) Vitamin c) fatty acid d) Carbohydrate
7. Which is formed during anaerobic respiration?
a) Carbohydrate b) Ethyl alcohol c) Acetylene d) Pyruvate
8. Who is known as the Father of Endocrinology?
a) W.M. Bayliss b) E.H. Starling c) Edward C. Kendall d) Thomas Addison
9. Heart of heart is called _____
a) SA node b) AV node c) Purkinje fibres d) Bundle of His
10. The plant which propagates with the help of its leaves is _____
a) onion b) Neem c) Bryophyllum d) Ginger
11. Palaeontology deals with the study of _____
a) region plants b) fossils c) hormones d) evolution of life
12. Green house effects refers to _____
a) Cultivation of plants b) Cooling of earth c) Warming of earth d) trapping of UV rays

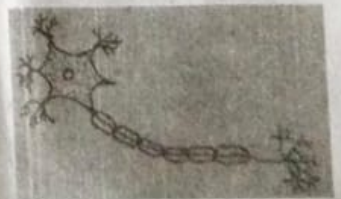
PART - II

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

7x2=14

13. State Boyle's law.
14. Mention two cases in which there is no Doppler effect in sound.
15. Match the following:

A i) Fuel ii) Moderator iii) Fusion reaction iv) Shield	B a) heavy water b) lead c) Uranium d) Hydrogen bomb
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16. What is meant by binary solution?
17. Define combination reactions. Give example.
18. What is Cohesion?
19. Label the parts. A - Cyton B - Dendrum C - Axon D - Axon terminal



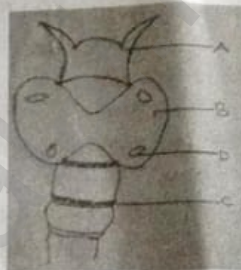
20. State whether the following statements are true or false. Correct the false statement.
- Seeds are the product of asexual reproduction.
 - LH is secreted by the posterior pituitary.
21. What is Script Editor? What are its main parts?
22. A change of 15 coulomb flows through a bulb in 3 seconds. What is the current through the bulb?

PART - III

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

7x4=28

23. Differentiate the eye defects myopia and Hyper metropia.
24. i) Why does sound travel faster on a rainy day than on a dry day?
ii) a) Name two animals, which can hear ultrasonic vibrations.
b) What is the audible range of frequency?
25. Give the salient features of "Modern atomic theory".
26. i) State two conditions necessary for rusting of iron.
ii) Give an example for each.
a) Gas in liquid b) Solid in liquid c) Solid in solid d) Gas in gas
27. i) What is respiratory quotient?
ii) Identify the parts A, B, C and D in the given figure.



28. i) a) _____ involves evaporative loss of water from aerial parts.
b) Normal blood pressure is _____
ii) Assertion (A): Diabetes mellitus increases the blood sugar level.
Reason (R): Insulin decreases the blood sugar level.
a) Both A and R are true and R is correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false d) A is false but R is true
29. i) What are allosomes? ii) What are okazaki fragments?
30. Define Ethno botany and write its importance.
31. i) Define genetic engineering.
ii) Write short note on Green revolution.
32. Calculate the P^{OH} of 1×10^{-4} molar solution of HNO_3 .

PART - IV

Answer all the questions. Draw diagrams wherever necessary.

3x7=21

33. a) i) State and prove the law conservation of linear momentum.
ii) State the principle of moments. (OR)
b) i) Compare the properties of alpha, beta and gamma radiations.
ii) Write any two features of natural and artificial radioactivity.
34. a) i) 'A' is a blue coloured crystalline salt on heating it losses blue colour and to give B. When water is added, 'B' gives back to 'A'. Identify A and B. Write the equation.
ii) Differentiate reversible and irreversible reaction (OR)
b) i) What is called homologous series? Write its characteristics.
ii) What is esterification?
35. a) i) List out the parasitic adaptations in leech.
ii) Write the physiological effects of gibberellins. (OR)
b) i) Suggest measures to overcome the problems of an alcoholic.
ii) What is the importance of rain water harvestings?