

COMMON HALF YEARLY EXAMINATION, 2025 - 26

Time Allowed : 3.00 Hours]

SCIENCE

[Max. Marks : 75]

PART - I

I. Answer to all the questions

12X1=12

- Newton's III law is applicable
 - for a body is at rest
 - for a body in motion
 - both a & b
 - only for bodies with equal masses
- In a simple circuit, why does the bulb glow when you close the switch?
 - The switch produces electricity
 - Closing the switch completes the circuit.
 - Closing the switch breaks the circuit
 - The bulb is getting charged.
- which of the following isotope can be cure Anemia
 - Iron - 59
 - Sodium - 24
 - Iodine - 131
 - Cobalt - 60
- which of the following group contains the member of halogen family.
 - 17th
 - 15th
 - 18th
 - 16th
- Solubility of NaCl in 100 ml water is 36 g. If 25 g of salt is dissolved in 100 ml of water how much more salt is required for saturation
 - 12 g
 - 11g
 - 16g
 - 20g
- which of the following factor influencing the rate of a reaction
 - Temperature
 - Catalyst
 - Pressure
 - all the above
- Which is formed during anaerobic respiration
 - Carbohydrate
 - Ethyl alcohol
 - Acetyl CoA
 - Pyruvate
- which one of the following blood cells number increases during conditions of **allergy**
 - Neutrophils
 - Eosinophils
 - Basophils
 - Lymphocytes
- Node of Ranvier is found in
 - muscles
 - axons
 - dendrites
 - cyton
- Which one of the following hormones is naturally not found in plants:
 - 2, 4-D
 - GA3
 - Gibberellin
 - IAA
- Excessive consumption of alcohol leads to
 - Loss of memory
 - Cirrhosis of liver
 - State of hallucination
 - Supression of brain function
- A renewable source of energy is
 - petroleum
 - coal
 - nuclear fuel
 - solar energy

PART - II

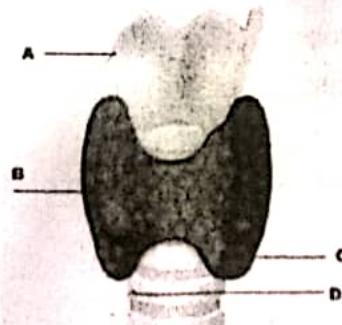
II. Answer to any seven questions.

7X2=14

(question no. 22 is compulsory)

- State Ohm's law.
- Name three animals, which can hear ultrasonic vibrations
- What is Molar volume of a gas?
- Differentiate reversible and irreversible reactions
- Name the parts of the hind brain.

- Identify the parts A, B, C and D



V/J/10/Sci/1

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19. How can you determine the age of the fossils?
 20. State the applications of DNA fingerprinting technique.
 21. What is Sprite?
 22. A charge of 12 coulomb flows through a bulb in 5 second. What is the current through the bulb? 2.4 A

PART - III

III. Answer to any seven questions. 7X4=28
 (question no. 32 is compulsory)

23. Give any four of the applications of universal law gravitation.
 24. i) Define one calorie.
 ii) What is co-efficient of apparent expansion?
 25. i) Give any two uses of radio isotopes in the field of agriculture?
 ii) a) The energy released in a nuclear fission process is about 3.84×10^{-12} J
 b) Name of the nuclear bomb that was dropped in Hiroshima during World War II Atom Bomb
 26. i) **Match the following**
 a) Galvanisation - Noble gas elements
 b) Calcination - Coating with Zn
 c) Dental filling - Heating in the absence of air
 d) Group 18 elements - Silver-tin amalgam
 ii) Give the equation for formation of rust.
 27. i) What happens when $MgSO_4 \cdot 7H_2O$ is heated? Write the appropriate equation
 ii) Define solubility
 28. Describe the structure of spinal cord
 29. i) Write the characteristics of insect pollinated flowers.
 ii) What is colostrum?
 30. Explain the structure of a chromosome.
 31. Discuss the importance of biotechnology in the field of medicine.
 32. i) calculate gram mass of 2 moles of hydrogen molecule 2
 ii) Calculate the % of oxygen in $Al_2(SO_4)_3$.
 (Atomic mass: Al - 27, O - 16, S - 32) 4.678

PART - IV

IV. Answer to all the questions. 3X7=21

33. (a) i) List any five properties of light
 ii) Why does the sky appear in blue colour?
 (OR)

(b) i) What is a nuclear reactor? Explain its essential parts with their functions.
 ii) Write any two elements which are used for inducing radioactivity?

34. (a) i) Write notes on various factors affecting solubility.
 ii) The aquatic animals live more in cold region Why?

(OR)

(b) i) Arrive at systematically, the IUPAC name of the compound: $CH_3-CH_2-CH_2-OH$.
 ii) Differentiate soaps and detergents

35. (a) i) Differentiate Aerobic and Anaerobic respiration
 ii) List out any three of the parasitic adaptations in leech

(OR)

(b) i) What are the various routes by which transmission of HIV takes place ?
 ii) How are e-wastes generated?
 iii) list out 3R Approach.

V / 10 / Sci / 2