



## Standard 10

## SCIENCE

Maximum Marks: 75

Time: 3.00 Hrs.

## PART - I

Note: i) Answer all questions.

12×1=12

ii) Choose the most suitable answer.

- 1) Impulse is equals to
  - a) rate of change of momentum
  - b) rate of force and time
  - c) change of momentum
  - d) rate of change of mass
- 2) SI unit of resistance is
  - a) mho
  - b) Joule
  - c) ohm
  - d) ohm meter
- 3) \_\_\_\_\_ isotope is used for the treatment of cancer.
  - a) Radio Iodine
  - b) Radio Cobalt
  - c) Radio Carbon
  - d) Radio Nickel
- 4) \_\_\_\_\_ group contains the member of halogen family.
  - a) 17<sup>th</sup>
  - b) 15<sup>th</sup>
  - c) 18<sup>th</sup>
  - d) 16<sup>th</sup>
- 5) Chemical formula for marble is \_\_\_\_\_.
  - a) CaO
  - b) Ca(OH)<sub>2</sub>
  - c) CaCl<sub>2</sub>
  - d) CaCO<sub>3</sub>
- 6) TFM in soaps represents \_\_\_\_\_ content in soap.
  - a) mineral
  - b) vitamin
  - c) fatty acid
  - d) carbohydrate
- 7) The animals which give birth to young ones are
  - a) Oviparous
  - b) Viviparous
  - c) Ovoviviparous
  - d) All the above
- 8) During transpiration there is loss of
  - a) Carbon dioxide
  - b) Oxygen
  - c) Water
  - d) None of the above
- 9) To increase the sugar production in sugarcanes they are sprayed with \_\_\_\_\_.
  - a) Auxin
  - b) Cytokinin
  - c) Gibberellins
  - d) Ethylene
- 10) The centromere is found at the centre of the \_\_\_\_\_ chromosome.
  - a) Telocentric
  - b) Metacentric
  - c) Sub-metacentric
  - d) Acrocentric
- 11) The 'use and disuse theory' was proposed by \_\_\_\_\_.
  - a) Charles Darwin
  - b) Ernst Haeckel
  - c) Jean Baptiste Lamarck
  - d) Gregor Mendel
- 12) \_\_\_\_\_ is a biosphere reserve in Tamil Nadu.
  - a) Nilgiris
  - b) Covai
  - c) Ooty
  - d) Chennai

## PART - II

Answer any 7 questions: [Q.No. 22 is compulsory]

7×2=14

- 13) Differentiate mass and weight.
- 14) Define dispersion of light.
- 15) What happens to the resistance, as the conductor is made thicker?
- 16) What is aqueous and non-aqueous solution? Give an example.
- 17) Name the three basic tissues system in flowering plants.
- 18) Name the secondary sex organs in male.
- 19) Why is Archaeopteryx considered to be a connecting link?
- 20) What are the consequences of deforestation?
- 21) What is sprite?
- 22) Calculate the velocity of moving body of mass 5 kg whose linear momentum is 2.5 kg ms<sup>-1</sup>.

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## PART - III

Answer any 7 questions: [Q.No. 32 is compulsory]

7×4=28

- 23) Differentiate the eye defects: Myopia and Hypermetropia
- 24) a) What is an echo? State two conditions necessary for hearing an echo?  
b) What are the medical applications of echo?
- 25) a) State Soddy and Fajan's displacement law.  
b) Give any two uses of radio isotopes in the field of agriculture.
- 26) Differentiate soaps and detergents.
- 27) a) Differentiate Aerobic and Anaerobic respiration.  
b) What is the common step in aerobic and anaerobic pathway?
- 28) Where are estrogens produced? What is the role of estrogens in the human body?
- 29) With a neat labelled diagram describe the parts of a typical angiospermic ovule.
- 30) Natural selection is a driving force for evolution - How?
- 31) What precautions can be taken for preventing heart diseases?
- 32) Calculate the pH of 0.01M  $\text{HNO}_3$ .

## PART - IV

Answer ALL questions. Each question carries seven marks:

3×7=21

[Draw diagram wherever necessary]

- 33) a) State and prove the law of conservation of linear momentum.  
b) Classify the types of force based on their application.

(OR)

- a) What is meant by electric current?  
b) Name and define its unit.  
c) Which instrument is used to measure the electric current?  
How should it be connected in a circuit?
- 34) a) State Avogadro's law.  
b) Write any 3 applications of Avogadro's law.  
c) Define - Relative atomic mass.

(OR)

- a) What is homologous series? Give any three of its characteristics.  
b) An organic compound 'A' is widely used as a preservative and has the molecular formula  $\text{C}_2\text{H}_4\text{O}_2$ . This compound reacts with ethanol to form a sweet smelling compound 'B'.  
i) Identify the compound 'A'.  
ii) Write the chemical equation for its reaction with ethanol to form compound 'B'.  
iii) Name the process.
- 35) Explain the male reproductive system of rabbit with a labelled diagram.

(OR)

- a) What are the consequences of soil erosion?  
b) Why fossil fuels are to be conserved?