

VNR10S

Virudhunagar District

Common Half Yearly Examination - December 2024



## Standard 10

## SCIENCE

Marks: 75

Time: 3.00 Hrs.

## Part - I

## I. Choose the correct answer:

12×1=12

- 1) The eye defect 'Presbyopia' can be corrected by  
a) Convex lens      b) Concave lens      c) Convex mirror      d) Bi focal lenses
- 2) SI unit of resistance is  
a) mho      b) joule      c) ohm      d) ohm meter
- 3) If radiation exposure is 100R, it causes to \_\_\_\_\_.  
a) skin disease      b) death      c) hair fall      d) blood cancer
- 4) The gram molecular mass of oxygen molecule is  
a) 16g      b) 18g      c) 32g      d) 17g
- 5) Which of the following is the universal solvent?  
a) Acetone      b) Benzene      c) Water      d) Alcohol
- 6) Which of the following are used as anaesthetics?  
a) Carboxylic acids      b) Ethers      c) Esters      d) Aldehydes
- 7) The endarch condition is the characteristic feature of  
a) root      b) stem      c) leaves      d) flower
- 8) The body of leech has  
a) 23 segments      b) 33 segments      c) 38 segments      d) 30 segments
- 9) Bipolar neurons are found in  
a) retina of eye      b) cerebral cortex  
c) embryo      d) respiratory epithelium
- 10) 9:3:3:1 ratio is due to  
a) Segregation      b) Crossing over  
c) Independent assortment      d) Recessiveness
- 11) The term Ethanobotany was coined by  
a) Khorana      b) J.W. Harsbberger      c) Ronald Ross      d) Hugo de Vries
- 12) A renewable source of energy is  
a) petroleum      b) coal      c) nuclear fuel      d) trees

## Part - II

## II. Answer any 7 questions: [Question No. 22 compulsory]

7×2=14

- 13) Define Inertia. Give its classification.
- 14) Why does the sky appear in blue colour?
- 15) Define one calorie.
- 16) Name the acid that renders aluminium passive. Why?
- 17) Write the uses of ethanol.
- 18) What is photosynthesis and where in a cell does it occur?
- 19) How are arteries and veins structurally different from one another?
- 20) Draw the structure of sperm and label its parts.
- 21) Name two maize hybrids rich in amino acid lysine.
- 22) Calculate the resistance of a conductor through which a current of 2A passes, when the potential difference between its ends is 30V.



## Part - III

## III. Answer any 7 questions: [Question No. 32 compulsory]

7×4=28

- 23) a) Differentiate mass and weight.  
b) State Newton's second law.
- 24) 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?
- 25) What is a nuclear reactor? Explain its essential parts with their functions.
- 26) Give the salient features of "Modern atomic theory".
- 27) Differentiate reversible and irreversible reactions.
- 28) List out the parasitic adaptations in leech.
- 29) Enumerate the functions of blood.
- 30) Write the physiological effects of gibberellins.
- 31) a) Define triple fusion.  
b) What is colostrum?
- 32) a) Calculate the pH of 0.01M HNO<sub>3</sub>?  
b) A solution was prepared by dissolving 25g of sugar in 100g of water. Calculate the mass percentage of solute.

## Part - IV

## IV. Answer in detail:

3×7=21

- 33) a) List any five properties of light.  
b) State Boyle's law.
- (OR)
- a) What do you understand by the term 'ultrasonic vibration'?  
b) State three uses of 'ultrasonic vibrations'.  
c) Name three animals which can hear ultrasonic vibrations.
- 34) a) What is Amalgam? Give examples.  
b) Write down the methods of preventing corrosion.
- (OR)
- a) What is called homologous series? Give any three of its characteristics.  
b) How is ethanoic acid prepared from ethanol? Give the chemical equation.
- 35) a) What is respiratory quotient?  
b) Differentiate Monocot root and Dicot root.
- (OR)
- a) What are the contributing factors of obesity?  
b) List out the harmful effects of Alcohol to health.
-