

**Standard 10****SCIENCE**

Time: 3.00 Hrs.

Marks: 75

PART - I**I. Choose the correct answer:****12×1=12**

- 1) In a myopic eye, the image of the object is formed.
 - a) behind the retina
 - b) on the retina
 - c) Infront of the retina
 - d) on the blind spot
- 2) The value of Universal gas constant
 - a) $3.81 \text{ J mol}^{-1} \text{ K}^{-1}$
 - b) $8.03 \text{ J mol}^{-1} \text{ K}^{-1}$
 - c) $1.38 \text{ J mol}^{-1} \text{ K}^{-1}$
 - d) $8.31 \text{ J mol}^{-1} \text{ K}^{-1}$
- 3) SI unit of resistance is
 - a) mho
 - b) Joule
 - c) ohm
 - d) ohm meter
- 4) Which of the following is a triatomic molecule?
 - a) Glucose
 - b) Helium
 - c) Carbon di oxide
 - d) Hydrogen
- 5) The basis of modern periodic law is _____.
 - a) atomic number
 - b) atomic mass
 - c) isotopic mass
 - d) number of neutrons
- 6) A solution is a _____ mixture.
 - a) homogeneous
 - b) heterogeneous
 - c) homogeneous and heterogeneous
 - d) non homogeneous
- 7) Which is formed during anaerobic respiration?
 - a) Carbohydrate
 - b) Ethyl alcohol
 - c) Acetyl CoA
 - d) Pyruvate
- 8) 'Heart of Heart' is called _____.
 - a) SA node
 - b) AV node
 - c) Purkinje fibres
 - d) Bundle of His
- 9) Node of Ranvier is found in
 - a) Muscles
 - b) Axons
 - c) Dendrites
 - d) Cyton
- 10) LH is secreted by
 - a) Adrenal gland
 - b) Thyroid gland
 - c) Anterior pituitary
 - d) Hypothalamus
- 11) Asexual reproduction takes place through budding in _____.
 - a) Amoeba
 - b) Yeast
 - c) Plasmodium
 - d) Bryophyllum
- 12) Okasaki fragments are joined together by _____.
 - a) Helicase
 - b) DNA polymerase
 - c) RNA primer
 - d) DNA ligase

PART - II**II. Answer any seven questions. Q.No: 22 compulsory:****7×2=14**

- 13) State Newton's second law.
- 14) Distinguish between ideal gas and real gas.
- 15) Define the unit of current.
- 16) What is molar volume of a gas?
- 17) Give an example:
 - (i) gas in liquid
 - (ii) solid in liquid
 - (iii) solid in solid
 - (iv) gas in gas
- 18) What is photosynthesis and where in a cell does it occur?
- 19) Define reflex arc.
- 20) Why are thyroid hormones referred as personality hormone?

- 21) What do you understand by the term phenotype and genotype?
- 22) An object is placed at a distance 20 cm from a convex lens of focal length 10 cm. Find the image distance and nature of the image.

PART - III**III. Answer any seven. Q.No. 32 compulsory:****7×4=28**

- 23) What are the types of inertia? Give an example for each type.
- 24) Differentiate the eye defects. Myopia and Hypermetropia.
- 25) i) Why is tungsten metal used in bulbs, but not in fuse wires?
ii) State ohm's law.
- 26) Derive the relationship between Relative molecular mass and vapour density.
- 27) In what way hygroscopic substances differ from deliquescent substances.
- 28) i) Write the dental formula of rabbit.
ii) How does locomotion take place in leech?
- 29) i) What is cohesion?
ii) **Match the following:**
- | | | |
|--------------------|---|---------------------|
| a) Leukemia | - | Phagocyte |
| b) Monocytes | - | Pressure gradient |
| c) AB blood group. | - | Blood cancer |
| d) Osmosis | - | Absence of antibody |
- 30) Write the physiological effects of gibberellins.
- 31) Classify neurons based on its structure.
- 32) Calculate the volume of ethanol in 200 ml solution of 20% v/v aqueous solution of ethanol.

PART - IV**IV. Answer all the questions:****3×7=21**

- 33) a) State and prove the law of conservation of linear momentum.

(OR)

- b) With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected.
(a) in series and (b) in parallel

- 34) i) Give the salient features of "Modern atomic theory".
ii) What is rust? Give the equation for formation of rust.
iii) State two conditions necessary for rusting of iron.

(OR)

- i) Write notes on various factors affecting solubility.
ii) What happens when $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ is heated? Write the appropriate equation.
- 35) a) What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus. **(OR)**
b) Explain with an example the inheritance of dihybrid cross. How is it different from monohybrid cross.
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