

QUARTERLY EXAMINATION - 2023**CLASS: X****SCIENCE**Reg.No:

Time : 3.00 Hours

MAX MARKS : 75**PART – I****I) Choose the correct answer.****12 x 1 = 12**

1. To project the rockets which of the following principle(s) is/are required?
 - a) Newton's third law of motion
 - b) Newton's law of gravitation
 - c) law of conservation of linear momentum
 - d) both a and c
2. The value of universal gas constant
 - a) $3.81 \text{ Jmol}^{-1}\text{k}^{-1}$
 - b) $8.03 \text{ Jmol}^{-1}\text{k}^{-1}$
 - c) $1.38 \text{ Jmol}^{-1}\text{k}^{-1}$
 - d) $8.31 \text{ Jmol}^{-1}\text{k}^{-1}$
3. SI unit of resistance
 - a) mho
 - b) joule
 - c) ohm
 - d) ohm meter
4. The gram molecular mass of nitrogen molecule is
 - a) 14 g
 - b) 18g
 - c) 17g
 - d) 28g
5. The basis of modern periodic law is _____
 - a) atomic number
 - b) atomic mass
 - c) isotopic mass
 - d) number of neutrons
6. The number of components in a binary solution is _____
 - a) 2
 - b) 3
 - c) 4
 - d) 5
7. Casparian strips are present in the _____ of the root.
 - a) cortex
 - b) pith
 - c) pericycle
 - d) endodermis
8. Mammals are _____ animals.
 - a) Cold blooded
 - b) Warm blooded
 - c) Poikilothermic
 - d) All the above
9. 'Heart of heart' is called
 - a) SA node
 - b) AV node
 - c) Purkinje fibres
 - d) Bundle of His
10. Node of Ranvier is found in
 - a) muscles
 - b) axons
 - c) dendrites
 - d) cyton
11. Which one is referred as "Master Gland"?
 - a) Pineal gland
 - b) Pituitary gland
 - c) Thyroid gland
 - d) Adrenal gland
12. Estrogen is secreted by
 - a) Anterior pituitary
 - b) Primary follicle
 - c) Graffian follicle
 - d) Corpus luteum

PART – II**II Answer any 7 questions. Question Number 22 is compulsory.****7 x 2 = 14**

13. Differentiate mass and weight.
14. State the law of volume.
15. Define the unit of current.
16. What is an amalgam?
17. Define : Atomicity
18. Draw and label the structure of oxysomes.
19. Write the differences between artery and vein (any two).
20. What are synthetic auxins? Give example.
21. Write the Law of Dominance.
22. Calculate the number of water molecule present in one drop of water which weighs 0.18 g.

PART – III**III Answer any 7 questions. Question Number 32 is compulsory.****7 x 4 = 28**

23. What are the types of inertia? Give an example for each type.
24. a) Differentiate convex lens and concave lens.
b) Define moment of a couple.

25. Deduce the equation of a force using Newton's second law of motion.
26. a) In a H_2 molecule, the distance between the two hydrogen nuclei of the molecule is 0.74 \AA . Find the covalent radius.
- b) What is Galvanization?
27. Write notes on various factors affecting solubility.
28. i) Match the following.
- | | | |
|----------------------|---|----------------------------|
| a) Nissil's granules | - | Forebrain |
| b) Hypothalamus | - | Pheripheral Nervous system |
| c) Cerebellum | - | cyton |
| d) Schwann cell | - | Hindbrain |
- ii) Write the reaction for photosynthesis?
29. What is transpiration? Give the importance of transpiration.
30. With a neat labelled diagram describe the parts of a typical angiospermic ovule.
31. Explain with an example the inheritance of dihybrid cross.
32. The resistance of a wire of length 10 m is 2 ohm. If the area of cross section of the wire is $2 \times 10^{-7} \text{ m}^2$, determine its (i) resistivity (ii) conductance and (iii) conductivity.

PART – IV

Answer all the questions.

3 x 7 = 21

Each question carries 7 marks. Draw diagram wherever necessary.

33. a) i) Differentiate the eye defects: Myopia and Hypermeteropia.
- ii) What is refractive index?
- (or)
- b) i) Explain the experiment of measuring the real and apparent expansion of a liquid with neat diagram.
- ii) List the merits of LED bulb.
34. a) i) Give the salient features of "Modern atomic theory".
- ii) Calculate molecular mass of glucose . (Atomic Mass : H-1, O-16, C-12)
- (or)
- b) i) In what way hygroscopic substances differ from deliquescent substances.
- ii) 3.5 litres of ethylalcohol is present in 15 Litres of aqueous solution of ethylalcohol. Calculate Volume percent of ethylalcohol solution .
35. a) i) List out the parasitic adaptations in leech.
- ii) Why is the colour of the blood red?
- iii) Why are the human testes located outside the abdominal cavity? Name the pouch in which they are present.
- (or)
- b) i) With neat labelled diagram explain the structure of a neuron.
- ii) Name the three types of blood cells.
- iii) A pure tall plant (TT) is crossed with pure dwarf plant (tt) what would be the F_1 and F_2 generations?



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