QUARTERLY COMMON EXAMINATION - 2022

10 - Std **Science** Reg.No. [ ][ ][ ][ ][ ][ ][ ]

Time : 2.30 Hrs Marks : 75

PART - I

I **Choose the correct answer.** 12 X 1 = 12

1. Newton's III law is applicable
   a) For a body is at rest b) For a body is motion
   c) both a &b d) Only for bodies with equal masses
2. If a substance is heated or cooled. The change is mass of that substance is
   a) Positive b) Negative c) Zero d) None of the above
3. SI unit of resistance is
   a) Mho b) Joule c) Ohm d) Ohm meter
4. Which of the following has the smallest mass?
   a) 6.023×10^{23} atoms of He b) 1 atom of He c) 2g of He d) 1 mole atoms of He
5. The number of periods and groups in the periodic table are
   a) 6, 16 b) 7, 17 c) 8, 18 d) 7, 18
6. The number of components in binary solution is
   a) 2 b) 3 c) 4 d) 5
7. Rabbite belong to class
   a) Mammal b) Reptiles c) Chordata d) Amphibians
8. The wall of human hearts is made of
   a) Endocardium b) Epicardium c) Myocardium d) All the above
9. Bipolar neurons are found in
   a) Retina of eye b) Cerebral cortex c) Embryo d) Respiratory epithelium
10. Which one is referred as 'Master gland"
    a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
11. Estrogen is secreted by
    a) Anterior pituitary b) Primary follicle c) Graffian Follicle d) Corpus luteum
12. Okasaki fragments are joined together by
    a) Helicase b) DNA Polymerase c) RNA Primer d) DNA ligase

PART - II

II **Answer any 7 questions. Question no. 22 compulsory.** 7 X 2 = 14

13. State Newton's second law.
14. State Boyle's law.
15. Why is lungsten metal used is bulbs, but not in fuse wires?
16. Define Atomicity.

17. What is rust? Give the equation for formation of rust?
18. How does leech suck blood from the host?
19. What is the importance of valves in the heart?
20. State whether true or false. If false. write the correct statement.
    a) Sympathetic nervous system is a part of central nervous system.
    b) Pons helps in regulating respiration.
21. Match the following.

Column I		Column II
1) Autosomes	-	Trisomy - 21
2) Diploid condition	-	23^{rd} pair of chromosome
3) Allosome	-	22 pair of chromosome
4) Down's syndrome	-	2n

22. 3.5 litres of ethanol is present in 1.5 litres of aqueous solution of ethanol. Calculate volume percent of ethanol solution.

PART - III

III Answer any 7 questions. Question number 32 is compulsory. 7 X 4 = 28

23. List any 5 properties of light.
24. Distinguish between linear, areal or superficial expansion.
25. What is the role of earth wire in domestic circuit?
26. a) Define alloys. b) What are the alloys of copper and write its uses?
27. In what way hygroscopic substance differ from deliquescent substances.
28. Differentiate dicot and monocot stem.
29. Why is the sinoatrial node called the pacemaker of heart?
30. Classify neurons based on its structure?
31. Why did mendel select pea plant for his experiments?
32. Calcium carbonate is decomposed on heating in the following reaction

$$CaCO_3 \longrightarrow CaO + CO_2$$

    i) How many moles of Calcium Carbonate are involved in this reaction?
    ii) Calculate the gram molecular mass of Calcium Carbonate involved in this reaction.
    iii) How many moles of CO_2 are there in this equation?

PART - IV

IV Answer all the questions. Each questions carries seven marks. Draw diagram wherever necessary. 7 X 3 = 21

33. What are the types of Inertia? Give an example for each type. **(OR)**
    a) What are the advantages of LED TV over the normal TV.
    b) List the merits of LED bulb.
34. a) Give the salient features of "Modern atomic theory'?
    b) Give any 2 examples for hetero diatomic molecules. ***(OR)***
    Write notes on various factors affecting solubility.
35. With a neat labelled diagram describe the parts of a typical angiospermic ovule. ***(OR)***
    How is the structure of DNA organised? What is the biological significance of DNA?