TVL10S

Standard 10
SCIENCE
PART - I

Time: 3.00 Hours   Marks: 75

i)   **Answer all the questions**   12×1=12
ii)   **Choose the most appropriate answer**

1) The scattered light in Raman scattering contains .... lines
   a) Stoke's   b) anti stoke's   c) Rayleigh's   d) all the above

2) If the atoms or molecules of a gas do not interact with each other, then the gas is said to be ....
   a) a real gas   b) an ideal gas   c) a noble gas   d) a rare gas

3) .... aprons are used to protect us from gamma radiation
   a) Lead oxide   b) Iron   c) Lead   d) Aluminium

4) In a combustion reaction,
   a) Oxygen gas is released   b) nitrogen gas is released
   c) Oxygen gas is utilised   d) nitrogen gas is utilised

5) Atomicity of phosphorous is ....
   a) 2   b) 3   c) 4   d) 6

6) $H_{2(g)} + Cl_{2(g)} \rightarrow 2HCl_{(g)}$ is a ....
   a) Decomposition reaction   b) combination reaction
   c) Single displacement reaction   d) Double displacement reaction

7) The brain of leech lies above the
   a) Mouth   b) Buccal cavity   c) Pharynx   d) crop

8) The part of human brain which acts as relay centre is
   a) pons   b) thalamus   c) Cerebrum   d) Cerebellum

9) The formation of nucleolus in the nucleus is by ....
   a) secondary constriction   b) Primary constriction
   c) telomere   d) locus

10) In humans, a male and a female gamete fuse and form the zygote. The condition of zygote is ....
    a) haploid   b) diploid   c) triploid   d) tetraploid

11) The organism considered to be the fossil bird is ....
    a) Ginko biloba   b) Archaeopterix
    c) Paleozoic ferm   d) Indian Gondwana

12) Cancer of epithelial cells is called ....
    a) Leukemia   b) Sarcoma   c) Carcinoma   d) Lymphoma

PART - II

Answer any 7 questions. Q.No. 22 is compulsory.   7×2=14

13) Why are traffic signals are used in red colour?
14) Give the difference between the light and sound waves
15) Match the following
    a) Electric current   - Volt
    b) Potential difference - Ohm meter
    c) Specific resistance - Watt
    d) Electric power - amphere
16) If the pH value of a solution is zero, then what will be the natureof the solution?
17) Define reflex arc
18) How are e-wastes generated?
19) Write the characteristics of insect pollinated flowers?

20) What are the contributing factors for obesity?
21) What is scratch?
22) Calculate the velocity of a moving body of mass 5kg whose linear momentum is $2kg\ ms^{-1}$.

PART – III

Answer any 7 questions. Q.No. 32 is compulsory. 7×4=28

23) Describe rocket propulsion?
24) Differentiate the eye defects: Myopia and Hypermetropia
25) Derive the relationship between relative molecular mass and vapour density
26) Explain the types of double displacement reactions with examples
27) (i) Why are thyroid harmones referred as personality harmone?
    (ii) Transpiration is a necessary evil in plants. Explain
28) What is photosynthesis and where in a cell does it occur? Write the equation for it?
29) How do you differentiate homologous organs from analogous organs?
30) What are the effects of hybrid vigour in animals?
31) (i) How is cancer cell different from a normal cells?
    (ii) Why fossil fuels are to be conserved?
32) (i) Can nickel spatula be used to stir copper sulphate solution? Justify your answer
    (ii) Name the simplest Ketone and give its structural formula

PART – IV

Answer all the questions. Draw diagrams wherever necessary 3×7=21

33) a) i) What is the co-efficient of cubical expansion?
       ii) Explain why the ceilings of concert halls are curved?
       iii) Differentiate Nuclear fission and Nuclear fusion
                          (OR)
    b) i) What is meant by electric current?
       ii) Name and define its unit
       iii) Which instrument is used to measure the electric current? How should it be connected in a circuit?
34) a) i) How many grams are there in the following substances?
          a) 2 moles of hydrogen molecule
          b) 3 moles of chlorine molecule
          c) 5 moles of sulphur molecule
          d) 4 moles of phosphorous molecule
       ii) In what way hygroscopic substances differ from deliquescent substances?
                          (OR)
    b) i) What is a chemical equilibrium? What are its characteristics?
       ii) 3.5 litres of ethanol is present in 15 litres of aqueous solution of ethanol. Calculate volume percent of ethanol solution
35) a) i) How does locomotion takes place in leech?
       ii) How are arteries and veins structurally different from one another?
                          (OR)
    b) How is the structure of DNA organised? What is the biological significance of DNA?

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