TVL10S

Tirunelveli District
Common Half Yearly Examination - 2024

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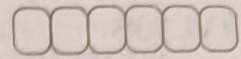
Standard 10

Time: 3.00 Hours   **SCIENCE**   Marks: 75

PART - I

I. Choose the correct answer.   12×1=12

1) In which of the following sport the turning effect of force used
   a) swimming   b) tennis   c) cycling   d) hockey

2) If a substance is heated or cooled, the change in mass of that substance is
   a) Positive   b) negative
   c) zero   d) none of the above

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

4) .... is an important metal to form amalgam.
   a) Ag   b) Hg   c) Mg   d) Al

5) Which of the following is the universal solvent?
   a) Acetone   b) Benzene   c) Water   d) Alcohol

6) Rectified spirit is an aqueous solution which contains about .... of ethanol
   a) 95.5%   b) 75.5%   c) 55.5%   d) 45.5%

7) The animals which give birth to young ones are ....
   a) Oviparous   b) viviparous   c) ovoviviparous   d) all the above

8) Which organ act as both exocrine gland as well as endocrine gland
   a) Pancreas   b) Kidney   c) Liver   d) Lungs

9) The .... units form the backbone of the DNA
   a) 5 carbon sugar   b) Phosphate
   c) nitrogenous bases   d) Sugar phosphate

10) The miracle rice which saved millions of lives and celebrated its 50th birthday is ....
    a) IR8   b) IR24   c) Atomita 2   d) Ponni

11) Soil erosion can be prevented by
    a) deforestation   b) afforestation
    c) overgrowing   d) removal of vegetation

12) All files are stored in the :...........
    a) Folder   b) box   c) Pai   d) Scanner

PART - II

II. Answer any seven questions. (Q.No. 22 compulsory)   7×2=14

13) State Snell's Law

14) **Match the following**
    1. Electric current   -   joule
    2. Potential difference   -   watt
    3. Electric power   -   ampere
    4. Electric energy   -   volt

15) Define : Atomicity

16) Difference reversible and irreversible reactions

17) What is respiratory quotient?

18) Define: reflex are

19) What is the importance of valves in the heart

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20) What do you understand by the term phenotype and genotype
21) How are e-wastes generated?
22) A sound wave has a frequency of 200 Hz and a speed of 400 ms^{-1} in a medium. Find the wave length of the sound wave.

PART - III

III. Answer any seven questions. (Q.No. 32 compulsory)   7×4=28

23) a) Differentiate mass and weight.
    b) What are the causes of Myopia?
24) a) Define one calorie.
    b) Name any 2 devices which are working on the heating effect of electric current.
25) State soddy and Fajan's displacement law
26) What happens when $MgSO_4 \cdot 7H_2O$ is heated? Write the appropriate equation.
27) a) Write the dental formula of a rabbit.
    b) List out the parasitic adaptation in leech
28) Enumerate the functions of blood.
29) Why did Mendel select pea plant for his expriments?
30) Define Ethnobotany and write its importance
31) a) Define: Genetic engineering
    b) What is metastatis
32) The hydroxide ion concentration of a solution is 1×10^{-11}M. What is the pH of the solution?

PART - IV

IV. Answer all questions   3×7=21

33) a) State Newton's second law
    b) Derive the ideal gas equation
               (OR)
    a) What are the factors that affect the speed of sound in gases.
    b) What is Stellar energy
34) a) Give the salient features of "Modern atomic theory"
    b) Calculate the number of moles in 1.51×10^{23} molecules of NH_4Cl.
               (OR)
    a) What is called homologous series? Give any 3 of its characteristics
    b) How is ethanoic acid prepared from ethanol? Give its chemical equation.
35) a) Where are estrogens produced? What is the role of oestrogen in human body
    b) Write the reaction for photosynthesis.
               (OR)
    a) How do you differentiate homologous organs from analogous organs?
    b) What are the contributing factors for obesity?

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