ARIYALUR DISTRICT

Reg:No: 1 0 3 0 1

SECOND REVISION EXAMINATION - 2025

SCIENCE

CLASS : 10 Marks : 75

Time : 3.00 Hrs.

Instructions: (1) **Check the question paper for fairness of printing. If there is any lack of fairness,inform the Hall Supervisor immediately.**

(2) **Use Black or Blue ink to write and underline and pencil to draw diagrams**

Note : This question paper contains four parts

PART – I

Note : (i) Answer all the questions **12x1=12**

(ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer

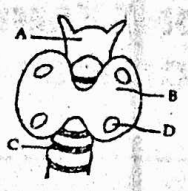
1. A convex lens forms a real, diminished point sized image at focus. Then the position of the object is at
   a) focus b) infinity c) at 2 f d) between f and 2f
2. Temperature is the average _____ of the molecules of a substance
   a) difference K.E and P.E b) sum of P.E and K.E
   c) difference in T.E and P.E. d) difference in K.E and T.E
3. The potential difference required to pass a current 0.2 A in a wire of resistance 20 ohm is _____.
   a) 100 V b) 4 V c) 0.1 V d) 40 V
4. Man-made radioactivity is also known as _____
   a) Induced radioactivity b) spontaneous radioactivity
   c) artificial radioactivity d) a & c
5. Which of the following is a triatomic molecule?
   a) Glucose b) helium c) carbon di oxide d) carbon di oxide
6. Which of the following is the universal solvent?
   a) Acetone b) Benzene c) Water d) Alcohol
7. 'X' is a orange coloured compound. It turns to green when it reacts with alcohol. Hence it is used for identification of alcohols. 'X' is _____
   a) K_2Cr_2O7 b) $FeSO_4$ c) KOH d) NaOH
8. The concept of blood group is derived by _____
   a) Wiener b) Karl Lansteiner c) William Harvey d) His
9. Vomiting centre is located in
   a) medulla oblongata b) Stomach c) Cerebrum d) Hypothalamus
10. Syngamy results in the formation _____
    a) Zoospores b) Conidia c) Zygote d) Chlamydospores
11. Himgiri developed by hybridisation and selection for disease resistance against rust pathogens is a variety of _____
    a) Chilli b) maize c) sugarcane d) wheat
12. Global warming will cause
    a) A raise of level in oceans b) melting of glaciers
    c) Sinking of islands d) all of these

PART – II

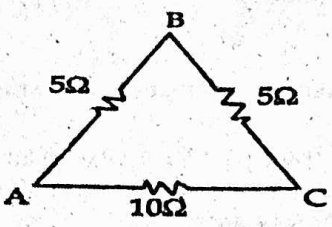
Note : Answer any seven questions. Question number 22 is compulsory. **7 × 2 = 14**

13. Classify the types of force based on their application
14. State the law of volume
15. Explain why, the ceilings of concert halls are curved.
16. True or false. If false give the correct statement
    a) In a solution the component which is present in lesser amount is called solvent.
    b) Sodium chloride dissolved in water forms a non – aqueous solution
17. The molecular formula of an alcohol is $C_4H_{10}O$. The locant number of its –OH group is 2. Draw its structural formula and give its IUPAC name
18. What are the uses of copper?

19. What is respiratory quotient?
20. Draw the diagram and label the parts



21. **Fill in the blanks**
    a) The forelimbs of bat and human are examples of _____ organs
    b) A protein rich wheat variety is _____
22. Calculate the effective resistance of the given circuit across terminals AC



PART – III

Note : (i) Answer any seven questions. Question number 32 is compulsory. **7x4=28**

23. a) State newton's third law
    b) While catching a cricket ball the fielder lowers his hands backwards. Why?
24. a) State Ohm's law
    b) Name three animals which can hear ultrasonic vibrations
25. Differentiate nuclear fission and nuclear fusion
26. State the applications of Avogadro's law
27. Differentiate soaps and detergents
28. Match columns I, II and III correctly

Organs	Membranous Convering	Location
Brain	Pleura	Abdominal cavity
Kindney	capsule	mediastinum
Heart	Meninges	enclosed in thoracic cavity
Lungs	Pericardium	Cranial cavity

29. Classify neurons based on its structure.
30. Explain the structure of a chromosome
31. Differentiate between Type-1 and Type-2 diabetes mellitus
32. What is the pH of 1.0 × 10-5 molar solution of KOH?

PART – IV

Note : (i) Answer all the questions. Draw diagrams wherever necessary **3x7=21**

33. a) Explain the rules for obtaining images formed by a convex lens with the help of ray diagram.

    (or)

    b) What is a nuclear reactor? Explain its essential parts with their functions. (Need not draw the diagram)
34. a) i. Define solubility
        ii. Write notes on various factors affecting solubility.

    (or)

    b) What is called homologous series? Give its characteristics
35. a) Why are leucocytes classified as granulocytes and agranulocytes? Name each cell and mention its functions.

    (or)

    b) With a neat labelled diagram explain techniques involved in gene cloning