

**MODEL QUESTION PAPER**

**STD: X**

**MARKS: 75**

**SUB: SCIENCE**

**TIME:**

**2.30hrs**

**PART-I**

**Choose the most suitable answer and write the code with corresponding answer**

**(12×1=12)**

1. The SI unit of torque is \_\_\_\_\_  
a)  $\text{Kgms}^{-2}$  b)  $\text{Kgm}^2\text{s}^{-2}$  c)  $\text{Nm}^2$  d)  $\text{Nm}^{-1}$
2. The eye defect 'Myopia' can be corrected by  
a) Convex lens b) Concave lens c) convex mirror d) Bi focal lenses
3. Kamini reactor is located at  
a) Kalpakkam b) Mumbai c) Koodankulam d) Rajasthan
4. Mass of 1 mole of Nitrogen atom is  
a) 28amu b) 14amu c) 28g d) 14g
5. \_\_\_\_\_ is the metal found most abundantly in the Earth's crust  
a) Copper b) Iron c) Aluminium d) Zinc
6. Functional group of Aldehyde is \_\_\_\_\_  
a) OH b) COOH c) CHO d) C=O
7. Which is formed during anaerobic respiration  
a) Carbohydrate b) Ethyl alcohol c) Acetyl COA d) Pyruvate
8. \_\_\_\_\_ was first used in the treatment of diabetes on 11<sup>th</sup> January 1922.  
a) Growth hormone b) Insulin c) Glucagon d) Cortisol
9. Syngamy results in the formation of \_\_\_\_\_  
a) Zoospores b) Conidia c) Zygote d) Chlamydo spores
10. The theory of natural selection for evolution was proposed by \_\_\_\_\_  
a) Charles Darwin b) Lamarck c) Ronald Ross d) J.W.Harshberger
11. 'World AIDS DAY' is observed on  
a) May 31 b) December 1 c) April 22 d) November 7
12. Green House effect refers to  
a) Cooling of earth b) trapping of UV rays  
c) Cultivation of plants d) warming of earth

## PART-II

Answer Any Seven of the following:

(7×2=14)

(Question number 22 is compulsory)

13. How does an astronaut float in a space shuttle?
14. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F.
15. Mention two cases in which there is no Doppler effect in sound.
16. A is a silvery white metal. A combines with O<sub>2</sub> to form B at 800°C, the alloy of A is used in making the aircraft. Find A and B.
17. Can nickel spatula be used to stir copper sulphate solution? Justify your answer.
18. Which organelle is known as “Power House of the cell”? Give reason.
19. Draw the structure of thyroid gland and label its parts.
20. Why is euploidy considered to be advantageous to both plants and animals?
21. Write the characteristics of insect pollinated flowers.
22. Draw the structural formula for ethanol and write its IUPAC name.

## PART- III

iii. Answer any seven of the following:

(Question number 32 is compulsory)

(7×4=28)

23. Differentiate convex lens and concave lens.
24. State the fundamental laws of gases.
25. Write down the medical applications of radio isotopes.
26. In what way hygroscopic substances differ from deliquescent substances.
27. What is a chemical equilibrium? What are its characteristics?
28. List out the parasitic adaptations in leech.
29. Classify the neurons based on its structure.
30. How can you determine the age of fossils?
31. Differentiate between Type - 1 and Type – 2 Diabetes mellitus.
32. The resistance of a wire of length 10m is 2 ohm. If the area of cross section of the wire is  $2 \times 10^{-2} \text{ m}^2$ , determine its
  - (i) Resistivity
  - (ii) Conductance and
  - (iii) Conductivity

## PART-IV

**Note. (i) Answer all the questions:**

**(ii) Draw the diagram wherever necessary. (3×7=21)**

33.(i) State and prove the law of conservation of linear momentum.

(ii) A ball of mass 1 kg moving with a speed of  $10\text{ms}^{-1}$  rebounds after a perfect elastic collision with the floor. Calculate the change in linear momentum of the ball.

**(OR)**

(i) Explain the process of controlled and uncontrolled chain reactions.

(ii) Define critical mass.

34.(i) State Avogadro's law.

(ii) Write the types and uses of Iron.

(ii) The aquatic animals live more in cold region. Why?

**(OR)**

a. The hydroxide ion concentration of a solution is  $1 \times 10^{-11}\text{M}$ . What is the  $\text{P}^{\text{H}}$  of the solution?

b. A gas is evolved when sodium salt of ethanoic acid is heated with soda lime. Name the gas.

b. An organic Compound 'A' is widely used as a preservative and has the molecular formula  $\text{C}_2\text{H}_4\text{O}_2$ . This compound reacts with ethanol to form a sweet smelling compound 'B'.

i. Identify the compound 'B'

ii. Write the chemical equation for its reaction with ethanol to form compound 'B'

iii. Name the process.

35.(i) Why are leucocytes classified as granulocytes and agranulocytes? Name each cell and mention its functions.

(ii) Why are the human testes located outside the abdominal cavity? Name the pouch in which they are present.

**(OR)**

(i) State the applications of DNA fingerprinting technique.

**(ii)** List out the preventive measures for child sexual abuse.

**(iii)** What are the consequences of deforestation?

**\*\*\*\*\*ALL THE BEST\*\*\*\*\***

**PREPARED BY**  
**S.MOHAN M.Sc.,B.Ed.,PGDYE.,**  
**(7418776511**  
**Karur district.**

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