

**PADASALAI'S QUARTERLY EXAM MODEL QUESTION PAPER 2022**

**STD: X**  
**SUB: SCIENCE**

**MARKS: 75**  
**TIME: 2.30hrs**

**PART-A**

**I. Choose the most suitable answer and write the code with corresponding answer ( 12×1=12)**

1. Impulse is equal to \_\_\_\_\_  
a) rate of change of momentum    b) rate of force and time  
c) change of momentum            d) rate of change of mass
2. In a myopic eye, the image of the object is formed \_\_\_\_  
a) behind the retina                    b) on the retina  
c) in front of the retina                d) on the blind spot
3. One Horse power(hp) = \_\_\_\_  
a) 647 watt    b) 746 watt    c) 220 volt    d) 1000 watt hour
4. Which of the following is hygroscopic in nature?  
a) ferric chloride                        b) silica gel  
c) copper sulphate penta hydrate      d) none of the above
5. \_\_\_\_\_ is the metal found most abundantly in the earth's crust.  
a) Iron    b) Copper    c) Aluminium    d) Silver
6. Which of the following is a triatomic molecule?  
a) Helium    b) Ozone    c) Hydrogen    d) Sulphur
7. The brain of leech has \_\_\_\_\_  
a) Mouth    b) Buccal cavity    c) Pharynx    d) Crop
8. Closed circulatory system was discovered by \_\_\_\_\_  
a) Bundle of His    b) Steini    c) William Harvey    d) Decastello
9. Nerve cells do not possess  
a) neurilemma    b) sarcolemma    c) axon    d) dendrites
10. Which one is referred as "Master Gland"?  
a) Pineal gland    b) Pituitary gland    c) Thyroid gland  
c) Adrenal gland

11. Anemophilous flowers have\_\_\_\_\_
- a) Sessile stigma      b) Small smooth stigma  
c) Colored flower      d) Large feathery stigma
12. The \_\_\_\_\_ units form the backbone of the DNA.
- a) 5 carbon sugar      b) Phosphate  
c) Nitrogenous bases      d) Sugar phosphate

### **PART-B**

**II. Answer Any Seven of the following: (7×2=14)**

**(Question number 22 is compulsory)**

13. Define inertia. Give its classification
14. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F.
15. State two conditions necessary for rusting of iron.
16. What is meant by ternary solution? Give one example.
17. Name the three basic tissues system in flowering plants.
18. Who discovered Rh factor? Why was it named so?
19. Differentiate between medullated and non-medullated nerve fibre.
20. Match the following terms with their respective meanings
- a) Parturition - 1) Duration between pregnancy and birth  
b) Gestation - 2) Attachment of zygote to endometrium  
c) Ovulation - 3) Delivery of baby from uterus  
d) Implantation - 4) Release of egg from Graaffian follicle
21. Why did Mendel select pea plant for his experiments?
22. Calculate the resistance of a conductor through which a current of 2A passes, when the potential difference between its ends is 30V.

### **PART- C**

**III. Answer any seven of the following: (7×4=28)**

**(Question number 32 is compulsory)**

23. Differentiate convex lens and concave lens.
24. Derive the ideal gas equation.
25. List out any four properties of Aluminum.

26. Write a notes on i) saturated solution ii) unsaturated solution
27. List out the parasitic adaptations in leech.
28. What is transpiration? Give the importance of transpiration.
29. Where are estrogens produced? What is the role of estrogens in the human body?
30. Explain the structure of sperm with neat diagram.
31. a) What is the biological significance of DNA?  
b) Name the conditions when both the alleles are identical?
32. Calcium carbonate is decomposed on heating in the following reaction  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ 
  - 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  $\text{CO}_2$  are there in this equation?

#### PART-D

**IV. Note. (i) Answer all the questions: (3×7=21)**

**(ii) Draw diagrams wherever necessary.**

1. (a) (i). State the universal law of gravitation and derive its mathematical expression.  
(ii) State Newton's third law of motion with example.  
**(OR)**
- (b) (i) List any four merits of LED bulb.  
(ii) What is meant by electric current?  
(iii) Name and define its unit.
2. (a) (i) Derive the relationship between Relative molecular mass and Vapour Density.  
(ii) Define: Atomicity  
**(OR)**
- b. (i) Explain smelting process.  
(ii) List any three uses of copper.

3. (a) (i) What is the shape of RBC in human blood?

(ii) What does CNS stand for?

(ii) With a neat labeled diagram explain the structure of neuron.

**(OR)**

**(b)** (i) Why are thyroid hormones referred to as personality hormones?

(ii) What are the phases of the menstrual cycle? Indicate the changes in the Ovary and uterus.

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

**PREPARED BY**

**S.MOHAN M.Sc., B.Ed., PGDYE,**

**KARUR.**

**9629133232**