STD - 10

FIRST MID TERM TEST - 2023
SCIENCE

Time : 1.30 Hours] [Marks : 50

PART - I

Answer all the questions. Choose the best option $8 \times 1 = 8$

1. Which lens is used to correct astigmatism?
   a. convex lens　　b. Bifocal lens　　c. Concave lens　　d. Cylindrical lens

2. Atomicity of phosphorus is
   a. 2　　b. 4　　c. 3　　d. 1

3. To project the rocket which of the following principle(s) is / are required?
   a. Newton's third law of motion　　b. Newton's law of gravitation
   c. Law of conservation of linear momentum　　d. a & c

4. The gap between incisor and premolar teeth of rabbit is called——
   a. diastema　　b. Hirudin　　c. Heparin　　d. Heterodont

5. —— group contains halogen family
   a. 17th　　b. 15th　　c. 18th　　d. 16th

6. Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens?
   a. F　　b. 2F　　c. infinity　　d. Between F and 2F

7. Kreb's cycle takes place in
   a. Chloroplast　　b. Mitochondrial matrix
   c. Stomata　　d. Inner mitochondrial membrane

8. The body of leech has
   a. 23 segments　　b. 33 segments　　c. 38 segments　　d. 30 segments

Part – II

$6 \times 2 = 12$

Answer any six questions. Question number 15 is compulsory.

9. Identify whether the statements are true or false. If the statement is false correct it.
   a. Weight of a body is greater at the equator and less at the polar region.
   b. The convex lens always gives small virtual image.

10. State Newton's second law.

11. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F.

12. Define relative atomic mass.

13. **Fill in the blanks**
    a. —— is the longest period in the periodic table
    b. Chief ore of aluminium is ——.

14. Write the dental formula of rabbit

15. Calculate the molecular mass of CO_2

16. What is respiratory quotient?

Answer any four questions. Question number 21 is compulsory

17. a. What is rust? Give the equation for the formation of rust

    b. State two conditions necessary for rusting of iron

18. Differentiate mass and weight

19. What are the applications of Avogadro's law?

20. i) Name the three basic tissue systems in flowering plants.

    ii) Match the following

I	II
1. Amphicribal	Conduction of water
2. Amphivasal	Translocation of food
3. Xylem	Fern
4. Phloem	Dracaena

<u>21.</u> A beam of light passing through a diverging lens of focal length 0.3 m appears to be focused at a distance 0.2 m behind the lens. Find the position of the object *

22. How does locomotion take place in leech?

<center>Part- IV   2 × 7 = 14</center>

Answer all the questions.

23. i) **Differentiate the following**

    a) Aerobic respiration and anaerobic respiration

    b) Dicot root and monocot root

<center>(or)</center>

    ii) Explain the male reproductive system of rabbit with a labelled diagram

24. i) a. State Rayleigh's law of scattering of light

    b. State the universal law of gravitation and derive its mathematical expression

<center>(or)</center>

    ii) a. Give the salient features of modern atomic theory

    b. Define atomicity.