(Each question carries 3 marks, 6 questions, 18 marks total)

- 19. Derive the formula for work done when a force is applied at an angle  $\theta$  to the displacement.
- 20. Explain the process of fractional distillation with a labeled diagram.
- 21. Describe the role of stomata in plants.
- 22. Write the differences between a physical change and a chemical change.
- 23. Explain the law of conservation of momentum with an example.
- 24. What are the differences between aerobic and anaerobic respiration?

## **SECTION D: Long Answer Questions**

(Each question carries 5 marks, 6 questions, 30 marks total)

- 25. Explain the structure of an atom based on Bohr's model.
- 26. Describe the process of digestion in humans with the help of a labeled diagram.
- 27. State and explain the three laws of motion with examples.
- 28. What are the various steps involved in the water cycle? Explain each step in detail
- 29. Describe the process of photosynthesis, mentioning the raw materials process, and 30. Discuss the differences between plant and iso cells with the help of a diagram.