SECTION - A

1. Write an essay on parasitic adaptations in flatworm. (10)

2. Write notes on any 2 (two): (2×5=10)
   (a) Medicinal importance of leeches.
   (b) Parental care in Amphibia.
   (c) Egg-laying mammals.

3. What disease is caused by Ascaris? Write an account of its pathogenicity, therapy and prophylaxis. (10)

4. Explain the meaning of the term population. What is population density? Mention the characteristics of population. (10)
5. Write notes on any 2 (two): \( 2 \times 5 = 10 \)
   (a) Sign stimuli.
   (b) Homing.
   (c) Predator tactics.

6. What is Electron Microscopy? Explain its working principle and its utility. \( 10 \)

7. Write notes on any 2 (two): \( 2 \times 5 = 10 \)
   (a) Carp culture.
   (b) Plaque.
   (c) Pest of rice.

8. (a) Describe the procedure for computing students test. Mention its utility in the field of Bioscience. \( 5 \)
   (b) Method of calculating chi-square test. \( 5 \)

(Contd. 3)
9. Write about the function of genes and mechanism of gene regulation in eukaryotes. (10)

10. Write notes on any 2 (two): (2×5=10)
    (a) Mitotic apparatus.
    (b) Golgi bodies.
    (c) Transcription factors.

11. Explain how a nerve impulse is carried through a synapse. (10)

12. Write notes on any 2 (two): (2×5=10)
    (a) Hardy-Weinberg law.
    (b) Transgenics.
    (c) Human genome-mapping.

13. Discuss the mechanism of hormonal action at the target site. (10)

14. Write notes on any 2 (two): (2×5=10)
    (a) Cladistics.
    (b) Role of cyclic AMP.
    (c) Isolation.

(Contd. 4)
15. What are allosteric enzymes? Discuss the mechanism of enzyme action. (10)

16. Write notes on any 2 (two): (2×5=10)
(a) Baer’s law.
(b) Metaplasia.
(c) Ageing.