SECTION – A (5 x 4 = 20 Marks)  
(Short Answer Type) 
Note: Answer any FIVE of the following questions.

1. Bacterial counting
2. Interrupted mating
3. Co-transduction
4. Specialized transduction
5. Ligases
6. Western blotting
7. Interferon
8. Golden rice

SECTION – B (4 x 15 = 60 Marks)  
(Essay Answer Type) 
Note: Answer all questions from the following.

9. (a) Explain gene mapping by conjugation.  
   (b) Explain gene mapping by transformation.

10. (a) Discuss the structure and classification of bacteriophages.  
    (b) Give an account on generalized transduction.

11. (a) What are c-DNA libraries? Discuss the strategies for construction of c-DNA libraries.  
    (b) Describe the screening methods for detection of cloned genes.

12. (a) Write an account on DNA based vaccines.  
    (b) Explain with examples genetic engineering of microorganism for bioremediation.