Instruction: All questions carry equal marks.

1. Describe scope and importance of any two:
   (a) Recombinant DNA Technology.
   (b) Medical microbiology.
   (c) Findings of Louis Pasteur.
   (d) Microorganisms in waste treatment.

2. Discuss typical bacterial cell and give importance of various parts. 
   OR
   2. Describe locomotory and protective parts of bacteria.

3. Describe any two:
   (a) Generation time and generations in bacteria.
   (b) Selective and Differential media.
   (c) Direct methods of measurement of microbial growth.
   (d) Steam sterilization to control microbial growth.

4. Write in brief any two:
   (a) Phage T₄.
   (b) Spontaneous mutation.
   (c) Transformation process.
   (d) Bacterial DNA.

5. Describe Beer and Vinegar production using yeast. 
   OR
   5. Discuss role of microorganisms in increasing soil fertility. Give specific examples.