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**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions: (6x5=30)**

- 1) Discuss techniques to select recombinants?
- 2) What is electroporation?
- 3) Differentiate between Cosmid and Bacterial Artificial Chromosome (BAC)?
- 4) Briefly explain how you can locate gene on a chromosome?
- 5) What are the cloning specific genes?
- 6) Define the following terms:  
a) Episome   b) Recombinant DNA   c) Cosmids   d) Ligase Enzyme   e) Exons

**Q.2. Answer the following questions. (3x10=30)**

- 1) How do you study the expression of a gene?
- 2) Discuss the role gene cloning in Medicine.
- 3) Discuss different steps involved in bacterial transformation for gene cloning.