

3 Answer the following : **2×7=14**

- (a) Write a detailed note on various plasmid vectors.
- (b) Differentiate different vectors in molecular biology depending upon their applications.

OR

- (a) What are Phagemids
- (b) Write a general account on expression vectors.

4 Answer the following : **2×7=14**

- (a) In-vitro packaging of bacteriophage λ .
- (b) Explain cDNA synthesis and its cloning strategies.

5 Write short notes on : (any **two**) **2×7=14**

- (a) DNA sequencing by synthesis
 - (b) PCR
 - (c) DNA Microarray
 - (d) Application of genetic engineering.
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