

Genetic Engineering and Biotechnology UPC: 324916011

Semester VI, 2022-23

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15 marks

- Q1. Comment on the following: (1x3 = 3)
- a) Type II restriction endonucleases are more popularly used as molecular scissors as compared to Type I and Type III restriction endonucleases.
 - b) Three bands are seen upon running plasmid DNA on agarose gel electrophoresis.
 - c) A second thermostable polymerase is sometimes used for PCR amplification
- Q2. A. Explain the use of the following enzymes in gene cloning: (1x3 = 3)
- a. Alkaline phosphatase
 - b. Taq polymerase
 - c. Reverse transcriptase
- Q3. Discuss the various modifications made to improve the method. Draw the autoradiograph derived from dideoxy nucleotide sequencing of the following sequence: (5)
- 5'CCTGATCTTAGCCAT3'
- Q4. Diagrammatically explain how a GST-tagged protein can be purified. (4)