

Exam.Code:0910
Sub. Code: 6714

1079

B.E. (Biotechnology) Sixth Semester
BIO-611: Recombinant DNA Technology

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Write a short notes on the following:-
- Justify, how ratio of absorbance at 260 and 280 is important for determining purity of a DNA sample.
 - Briefly state why type-II molecular scissors are most popular among recombinant labs.
 - What is FlavrSavr tomato? Why it is called so?
 - List out complete steps in a polymerase chain reaction.
 - What important features an ideal expression vector should have. (5x2)

UNIT - I

- II. a) Differentiate between plasmid and phagmids.
b) Describing important features of *Agrobacterium* and Ti plasmid, explain the generation of transgenic plants. (2x5)
- III. a) Differentiate between DNA polymerase and ligase enzyme.
b) Stating different versions of PCR, describe their application in the field of diagnostics. (2x5)
- IV. a) Elaborate on role of antibiotic, lysozyme, chloroform, NaOH and RNAase in plasmid DNA isolation from bacteria.
b) Describing temperature sensitive mutant, analyze their importance in isolating DNA from phages. (7,3)

UNIT - II

- V. a) Differentiate between illumina and Sanger method of sequencing DNA.
b) Design a step wise experimental strategy for isolating "x" gene from human and cloning in bacterial expression vector. (2x5)

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(2)

- VI. a) Describe in detail different strategies to find the intracellular protein partners of a target protein.
- b) Differentiate between herbicide and insecticide tolerant transgenic plants. (2x5)
- VII. Write a note on following:-
- a) Modification interference assay
- b) Regulation of Recombinant DNA work (2x5)

x-x-x