

2053
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 Section.

x-x-x

1. Write a short answer (1*10=10)
- a) Role of kinase enzyme
 - b) Name any type-II molecular scissor
 - c) Importance of promoter element
 - d) cDNA is complementary to
 - e) Role of site directed mutagenesis
 - f) Role of Thermal cycler
 - g) Genetic modification in FlavrSavr tomato
 - h) Role of CTAB in DNA isolation
 - i) Importance of melting curve in RT-PCR
 - j) Florescent entity used in DNA detection probe

Section- A

- 2 a) Compare PBR and pUC9 series of plasmids. (6)
b) Give functional details of each component present in Ti plasmids. (4)
- 3 a) Write a detailed note on DNA polymerase types. (5)
b) How PCR-OLA works for disease diagnostics, explain with an example. (5)
- 4 a) Write a note on BAC vectors. Give detailed comparison between BAC and YAC. (7)
b) How and why temperature sensitive mutants are utilized for isolating phage DNA. (3)

Section- B

- 5 a) Write methodology of Sanger-Coulson method of DNA sequencing. Compare it with illumina method. (5)
b) What is Bt-cotton. Write in detail the process and outcome of this molecular manipulation. (5)
- 6 a) How to study interacting proteins. Give account of different methodologies. (5)
b) Design a step wise experimental strategy to isolate and cloning "x" gene from human in an expression vector. (5)
7. Write a note on followings
- a) Modification interference assay
 - b) Regulation guidelines in Recombinant DNA work (5+5)

x-x-x

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Main body of faint, illegible text, possibly containing a list or numbered items.