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Exam.Code:0910
Sub. Code: 6315

2014
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

Q 1. Write a short answer

(1*10=10)

- a) Define molecular farming
- b) Steps in thermocycler
- c) Modification in FlavrSavr tomato
- d) First recombinant human protein
- e) Characteristics of type-II molecular scissors
- f) Features in expression vector
- g) Role of S1 nuclease
- h) Enzyme involved in cDNA synthesis
- i) Ti and Ri stand for
- j) Name any enzyme used in detection probe

Section- A

- Q. 2 a) Elaborate on different vector generations based on lambda phage. (6)
b) Write a note on BAC vectors. How BAC differ from YAC vectors. (4)
- Q. 3 a) Write a detailed note on restriction endonucleases. (5)
b) Illustrate the application of PCR-OLA in disease diagnostics, using an example. (5)
- Q. 4 a) Elaborate on role of antibiotic, lysozyme, chloroform, NaOH and RNAase in plasmid DNA isolation. (7)
b) Write a note on vectors available to transfect animal cells. (3)

Section- B

- Q. 5 a) Compare 454 sequencing with Sanger sequencing methodology. (5)
b) How will you screen a DNA library for isolating gene encoding growth hormone. Describe steps. (5)
- Q.6 a) Describe in detail various methods to identify interacting proteins in cellular environment. (5)
b) What is siRNA technology? How it has been employed in plant sciences. (5)

P.T.O.

(2)

Q. 7. a) Review the case study of synthesizing Recombinant factor VIII. Evaluate the general ethical concerns related to RDT. (7)

b) Write a note on herbicide tolerant transgenic plants. (3)

x-x-x