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EBT501

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 154501

Roll No.

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B. Tech. (Semester-V)**SPL. THEORY EXAMINATION, 2014-15****GENETIC ENGINEERING***Time : 3 Hours**[Total Marks : 100***Note:** Attempt all questions. All question carry equal marks.

1. Attempt any two parts : 10×2=20
 - (a) What is selectable marker? Explain with suitable example. How selectable marker is different from screenable marker?
 - (b) What are the minimum essential properties for a cloning vector?
 - (c) What is fusion protein? Discuss its application.

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(1)

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2. Attempt any four parts : 5×4=20

- Discuss the difference between cDNA and genomic DNA library.
- Describe the role of homopolymer tailing in genetic engineering.
- Explain the steps involved in gene cloning with neat and clean diagram.
- What do you understand by site direct mutagenesis?
- What do you mean by electroporation? How this method is useful in genetic transformation in prokaryotes?

3. Write short notes on any four of the following : 5×4=20

- G proteins
- Cosmids
- Genetic transformation
- Wound inducible promoters
- DNA hybridization

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4. Attempt any two parts : 10×2=20

- What do you understand by DNA delivery methods? Explain physical methods and biological DNA delivery methods.
- What is the function of taq polymerase in PCR? What are different steps involved in PCR for amplification of DNA?
- Explain the various steps involved in cloning of sheep (Dolly).

5. Attempt any two parts : 10×2=20

- What are ethical issues in human cloning? Explain the procedure of organismal cloning. How it is different from therapeutic cloning?
- What is Yeast Artificial Chromosome (YAC) vector? Discuss the cloning procedure by using YAC vector.
- What do you mean by cell signaling? Explain the general principles of cell signaling.

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