

Code: R7312304

**R7**

B.Tech III Year I Semester (R07) Supplementary Examinations, May 2013

**GENETIC ENGINEERING**

(Biotechnology)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions  
All questions carry equal marks

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- 1 How is the activity of enzymes involved in sugar metabolism regulated? Explain in detail by citing any one example.
- 2 Describe various levels at which a eukaryotic gene can be regulated.
- 3 (a) How is chromosomal DNA separated from plasmid DNA during plasmid preparation? State the function of EDTA in TES buffer.  
(b) Briefly describe the steps involved in plasmid isolation procedure.
- 4 (a) What are the features of good vectors?  
(b) Briefly describe the features of one plasmid and one phage vectors of E. Coli.
- 5 Discuss in detail Sanger's method of DNA sequencing.
- 6 (a) Describe the basic principle of PCR.  
(b) Comment on nature of enzymes used in PCR along with their applications.
- 7 Write short note on:  
(a) RFLP.  
(b) 16s r-RNA.  
(c) RAPD.  
(d) Microarray.
- 8 Describe the advantages and disadvantages of various high level expression systems.

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