

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

- 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.
