

**R9**

Code: 9A23504

B.Tech III Year I Semester (R09) Supplementary Examinations, May 2012

**GENETIC ENGINEERING**

(Biotechnology)

Time: 3 hours

Max Marks: 70

Answer any FIVE questions

All questions carry equal marks

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- 1 Explain the mechanism of gene regulation in Eukaryotes.
- 2 (a) Write briefly on purification of genomic DNA.  
(b) Describe tryptophan operon model.  
(c) Write about applications of transposons.
- 3 Explain in detail the expression of cloned genes in yeast.
- 4 (a) Describe methods of gene transfer.  
(b) Write about different types of plasmids.  
(c) Explain Western blotting technique.
- 5 (a) Describe sigma-switch in *Bacillus Subtilis*.  
(b) Explain identification of PCR product.  
(c) Write briefly on DNA hybridization.
- 6 (a) Explain steps involved in cloning of insulin.  
(b) Describe strategies of c-DNA library construction.
- 7 Describe in detail the PCR technology. Add a note on the applications of PCR technology.
- 8 (a) What are different types of Bacterial transposons.  
(b) Write about gene rearrangement.  
(c) Explain Dot and Slot Blot technique.

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