

Sr. No. 3141

Exam. Code: 107406

Subject Code : 2270

B.Sc. Bio-technology - 6th Sem.

(2517)

Paper-BT-I: rDNA Technology-B

Time Allowed: 3 hrs.

Max. Marks: 40

Section A: Attempt All Questions. 1 marks each.

- i. Explain features of Ti Plasmid.
- ii. What do you mean by Shuttle vectors?
- iii. When you can use adapters for cloning?
- iv. What is inverse PCR.
- v. What kind of probe is used for cDNA microarray?
- vi. Error prone PCR.
- vii. Role of Mg^{2+} ions in *Taq* activity?
- viii. Single primer method?

Section B: Attempt five questions by selecting one from each unit. 4 marks each

Unit I

- Q1. Explain various promoters used vector construction for constitutive and regulated gene expression?
- Q2. Explain features of pGEX vector? What are its applications?

Unit II

- Q3. Describe the process of making genomics library?
- Q4. Where you will use linkers and adapters while gene cloning?

Unit III

- Q5. Explain different forms of PCR, used for full length cDNA cloning?
- Q6. What are microarrays? How they are helpful in analyzing global gene expression and what are its limitations?

Unit IV

- Q7. Explain Sanger Coulson method of Sequencing?
- Q8. Explain PCR based methods of site directed mutagenesis?

Section C: Do any two questions. 6 marks each

- Q9. Explain various component of BAC and Ti vectors. What size fragment would you insert into each?
- Q10. What are lambda vectors? What makes them suitable for cloning of large fragments? How can you screen a cDNA lambda library?
- Q11. What is PCR? Explain various steps of PCR and important components of a PCR reaction?
- Q12. Explain Phage display and its applications?
