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?

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