



DII-003-013203

Seat No. _____

M. Sc. (Biotechnology) (Sem. II) (CBCS) Examination

May / June – 2015

BT - 209 : Molecular Biotechnology - I

(New Course)

Faculty Code : 003

Subject Code : 013203

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Instruction: All questions are compulsory and carry equal marks.

- 1 Explain *any seven* of the followings terms: (14)
 - a. Topoisomerase I
 - b. Reverse transcriptase
 - c. Homopolymer tailing
 - d. YAC and BAC
 - e. Plasmid and cosmid
 - f. α -complementation
 - g. chromosome walking
 - h. Directional cloning
 - i. linkage analysis
 - j. Genotyping

 2. Write notes on *any two* of the following: (14)
 - a. DNA methylation
 - b. DNA ligases
 - c. DNA polymerase I

 3. Write short notes on: (14)
 - a. Plasmid Biology
 - b. Bacteriophage vectors
- OR**
3. Write short notes on: (14)
 - a. Explain mode of action of key enzymes used in Cloning approach
 - b. Explain cDNA synthesis and its cloning strategies

 4. Answer of the followings: (14)
 - a. Explain *in situ* chromosomal hybridization with its major advantages and limitation
 - b. What is Microarray technique? Write its applications

5. Answer *any two* of the followings:

(14)

- a. Explain in detail the techniques used in sequencing of DNA
- b. Discuss the role of Antisense RNA in detail
- c. Describe PCR based and non PCR based marker techniques
- d. Explain various hybridization techniques
