

Total No. of Questions : 8]

SEAT No. :

P2228

[5332]-21

[Total No. of Pages : 2

M.Sc.

BIOTECHNOLOGY

**BT - 21 : Genetic Engineering
(2008 Pattern) (Semester - II)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) Attempt a total of Five questions selecting at least two questions from each section.*
- 2) Answer to the sections must be written on separate answer books.*
- 3) Neat labelled diagram must be drawn whenever necessary.*
- 4) Figures to the right indicate full marks.*

SECTION - I

Q1) a) What is star activity and what are factors responsible for it? **[8]**

b) Draw a neat labeled schematic map of BAC vector. **[8]**

Q2) Explain procedure, advantages, applications and limitation of AFLP and RAPD. **[16]**

Q3) a) With two suitable examples, explain bio therapeutics and their synthesis using recombinant DNA technology. **[8]**

b) Describe in detail the Gene transfer methods employed in eukaryotic gene cloning. **[8]**

Q4) Write self - explanatory notes on any two of the following. **[16]**

- a) DNA polymerases and Ligases
- b) Shuttle vectors
- c) Inclusion bodies.

P.T.O.

SECTION - II

Q5) Explain the principles of shotgun sequencing and fragment assembly. [16]

Q6) Compare and contrast the following. [16]

- a) Hot start and Nested PCR
- b) Touch down and Inverse PCR

Q7) Write self - explanatory notes on any two of the following. [16]

- a) Gene annotation.
- b) Physical mapping.
- c) Gene therapy.

Q8) a) Explain giving reasons the steps involved in manufacturing of edible vaccines. [8]

b) Describe molecular farming. [8]

