



**KB-484**

Seat No. \_\_\_\_\_

**B. Sc. (Microbiology) (Sem. V) Examination**

**October / November - 2017**

**MI-502 : Techniques in Gene Transfer**

Time : 3 Hours ]

[ Total Marks : 70

- 1 (a) Answer any **two** : 15
- (1) Discuss F plasmids in detail.
  - (2) In Vitro plasmid Transfer.
  - (3) Types of transposons.
- (b) Answer in Brief : 2
- (1) Define: Conduction and donation.
  - (2) Function of rep genes and tra genes.
- 2 (a) Answer any **two** : 15
- (1) Discuss Griffith's experiment.
  - (2) Discuss the experiment which proved that DNA and not RNA or protein is the genetic material.
  - (3) Major steps in transformation process.
- (b) Answer in brief : 2
- (1) Competence generally occurs in which growth phase?
  - (2) Co-transformation

- 3 (a) Answer any **two** : 15
- (1) Discuss what is Specialized transduction and its role as a cloning vector.
  - (2) Co-transduction and linkage.
  - (3) Generalized Transduction by P 22 Phage
- (b) Answer in Brief : 3
- (1) Define lysis and lysogeny by a phage.
  - (2) Cos site and its function.
- 4 (a) Answer any **two** : 15
- (1) Interrupted mating
  - (2) Discuss Hfr Transfer into E. coli
  - (3) Time of entry mapping
- (b) Answer in Brief : 3
- (1) Hfr strains
  - (2) Role of rec A proteins.
  - (3) Chi site.
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