



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** :
- (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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