

Roll No. \_\_\_\_\_

The H. N. S. B. Ltd. Science College, Himatnagar

Internal Examination September/October - 2016

B.Sc. Sem-5

Subject: MICROBIOLOGY

Date: 27/9/2016

Marks: 40

Paper : CC- MI -502 TECHNIQUES IN GENE TRANSFER

Time: 1½ hr

**Part –A** answer any five of following.

[05]

**Q.1** Introduction of DNA into cells by exposing to high voltage electric pulse is

- (a) Electrofusion (b) Electroporation  
(c) Electrofusion (d) Electrolysis

**Q.2** A virus mediated gene transfer using genetically modified bacteriophage is called

- (a) Transformation (b) Transduction  
(c) Conjugation (d) Transfection

**Q.3** A bacterium containing phage DNA integrated in its chromosome is

- (a) Avirulent (b) Lytic  
(c) Lysogenic (d) Lambda lysogen

**Q.4** Ti-plasmid, used as a plant vector is obtained from

- (a) *Agrobacterium tumefaciens* (b) *Agrobacterium radiobacter*  
(c) *Agrobacterium rhizogenes* (d) *Thermus aquaticus*

**Q.5** The most popular and widely used engineered plasmid vector is

- (a) PBr 322 (b) Psc 101  
(c) pUC vector (d) pUC19

**Q.6** The name of the process in which plasmids can be eliminated from a cell is

- (a) Eliminating (c) Altering  
(b) Releasing (d) Curing

**PART-B** Answer any five of following.

[05]

**Q.7** What is colicinogenic plasmid?

**Q.8** What is incompatibility?

Q.9 What is competence?

Q.10 What is HFT?

Q.11 What is generalized transduction?

Q.12 **Define:** transposase enzyme

Q.13 Give function of RecA.

**PART-C** Answer any **three** of the following.

[06]

Q.14 Explain : Ti-plasmid.

Q.15 Give general principles of bacterial recombination.

Q.16 Draw the structure of insertion sequences.

Q.17 Explain ways by which Hfr cells entered in cell containing F.

**PART-D** Answer any **four** of the following.

[12]

Q.18 Explain in detail : Mobile genes.

Q.19 Specialized transduction with diagram.

Q.20 Molecular mechanism of "Transformation"

Q.21 Insertion of F<sup>-</sup> into *E.coli* chromosome Hfr transfer

Q.22 What is co-transduction and linkage ?

Q.23 Explain experiment of F.Griffith.

**PART-E** Answer any **two** of the following.

[12]

Q.24 Explain interrupted mating technique with the time of entry mapping.

Q.25 Give details about replication of plasmid.

Q.26 Discovery of transformation.

Q.27 Specialized transduction from lambda lysogen.

**-: Best of Luck :-**