



V.P & R.P.T.P SCIENCE COLLEGE  
INTERNAL TEST  
MICROBIOLOGY  
USO6CMIC01

DATE : 05/03/2019 (Tuesday)

Time : 10:00 a.m to 12:00 p.m

Note: Figures on the right indicate marks

TOTALMARKS : 50

Q-1: Attempt the following multiple choice questions:

(08)

- i) Joshua and Esther Lederberg devised:
  - a) Ame's test
  - b) Replica plate method
  - c) Fluctuation test
  - d) New combe's experiment
- ii) Transduction was discovered by:
  - a) Barbara Maclintok
  - b) Zinder and Lederberg
  - c) Lederberg and Tatum
  - d) Luria and Delbruck
- iii) Transposons were discovered by:
  - a) Barbara Maclintok
  - b) Zinder and Lederberg
  - c) Lederberg and Tatum
  - d) Luria and Delbruck
- iv) When a codon AAG is mutated to CAG, the type of mutation is:
  - a) Silent mutation
  - b) Samesense mutation
  - c) Nonsense mutation
  - d) Missense mutation
- v) F-plasmid is generally found in :
  - a) *S. aureus*
  - b) *M. luteus*
  - c) Bacilli
  - d) *E. coli*
- vi) The example of bacteriocin is :
  - a) Tyrocin
  - b) Cloacin
  - c) Myocin
  - d) None of these
- vii) SOS repair involves:
  - a) Glycosylase
  - b) Mut H
  - c) Transferase
  - d) Rec A
- viii) Glycolylase is involved in :
  - a) SOS repair
  - b) Nucleotide excision repair
  - c) Mismatch repair
  - d) Base excision repair

Q-2: Attempt the following short questions: (Any five)

(10)

- i) What are base substitution mutations? Cite examples.
- ii) What are auxotrophs and prototrophs?
- iii) Which enzymes and proteins are involved in mismatch repair of DNA?
- iv) How photoreactivation repairs the damaged DNA?
- v) What are insersion sequences? Give examples.
- vi) What is a merozygote?
- vii) Why are bacteria selected as a genetic tool in studying genetics?
- viii) Enlist various phenotypic types of plasmid.



Q-3: What is spontaneous mutation? Write a note on Fluctuation test. (08)

OR

Q-3: Define mutagens. Describe the mode of action of U.V radiation and Nitrous acid. (08)

Q-4: Which are the modes of recombination in bacteria? Explain Holliday model of recombination. (08)

OR

Q-4: What is reversion mutation? Write a note on Ame's test. (08)

Q-5: Write how transformation was discovered? Explain the mechanism of transformation in gram positive bacteria citing a suitable example. (08)

OR

Q-5: What is transduction? Explain the mechanism of specialized transduction. (08)

Q-6: Describe how mating pairs are formed during conjugation. (08)

OR

Q-6: What is gene mapping? Describe how conjugation process is used for gene mapping in bacteria? (08)