

**Q.P. Code : 11335**

**Third Semester B.Sc. Degree Examination,  
November/December 2019**

*(CBCS – Semester Scheme)*

**Microbiology**

**Paper III – MICROBIAL PHYSIOLOGY AND MICROBIAL GENETICS**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to Candidates :*

- 1) *Answer all the Sections.*
- 2) *Draw diagrams wherever necessary.*

SECTION – A

**(5 × 2 = 10)**

I. Write brief notes on the following :

1. Nitrifying bacteria
2. Satellite chromosome
3. Redox reactions
4. Storage polysaccharide
5. A-DNA.

SECTION – B

**(4 × 5 = 20)**

II. Answer any **FOUR** of the following :

6. Write a note on the importance of proteins.
7. Write a note on Replica plate method.
8. Describe Messelson and Stahl experiment.
9. Briefly explain Propionic acid fermentation.
10. Explain cyclic photophosphorylation.

**Q.P. Code : 11335**

SECTION - C

- III. Answer any **THREE** of the following : **(3 × 10 = 30)**
11. Explain EMP pathway. Add a note on its energetics.
  12. Discuss conjugation as a recombination process.
  13. Explain the mechanism and types of enzyme inhibition.
  14. Define mutation. Explain molecular basis of mutation.
  15. What is free energy? Add a note on high energy compounds.

SECTION - D

- IV. Answer the following in **1** sentence : **(10 × 1 = 10)**
16. Nucleotide
  17. Ribozyme
  18. Oleic acid
  19. Thiobacillus ferrooxidans
  20. Competent cells
  21. Ligases
  22. Mutant
  23. PMF
  24. Nucleotide
  25. Tautomerism.
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