



I Semester M.Sc. Examination, May 2014

**MICROBIOLOGY**

**Morphology and Ultrastructure of Bacteria (Prokaryotes)**

Time : 3 Hours

Max. Marks : 80

**Instruction :** Answer **all** the Sections.

**SECTION – A**

Answer **any four** questions from the following :

(4×5=20)

1. What is periplasmic space ?
2. Functions of bacterial cell wall.
3. Morphological diversity in bacteria.
4. Bacterial cysts.
5. Lipopolysaccharides.
6. Capsule/Slime layer.

**SECTION – B**

Answer **any three** questions from the following :

(3×10=30)

7. Explain the structure of the Gram negative bacterial cell wall.
8. What are the different kinds of inclusion bodies in bacteria ?
9. Write short notes on the following :
  - a) Bacterial plasmids.
  - b) Metachromatic granules.
10. Write short notes on the following :
  - a) Applications of archaea.
  - b) Nuclear material in bacteria.
11. Give an account of structure of bacterial ribosomes.

P.T.O.



## SECTION – C

Answer **any two** questions from the following :

(2×15=30)

12. What are bacterial pigments ? Explain the different types of pigments.
13. Write short notes on the following :
  - a) Fluid mosaic model.
  - b) Heterocysts.
  - c) Sex Pili.
14. Discuss the fine structure and function of the bacterial flagella.
15. Explain the detailed structure and functions of bacterial endospores.

3. Morphological diversity in bacteria
4. Bacterial cysts
5. Lipopolysaccharides
6. Capsule/slime layer

## SECTION – B

Answer any **three** questions from the following :

7. Explain the structure of the Gram negative bacterial cell wall.
8. What are the different kinds of inclusion bodies in bacteria ?
9. Write short notes on the following :
  - a) Bacterial plasmids
  - b) Metachromatic granules
10. Write short notes on the following :
  - a) Applications of vaccines
  - b) Nutrient material in bacteria
11. Give an account of structure of bacterial ribosomes.