

**FACULTY OF SCIENCE**

**M. Sc. I – Semester (CBCS) Examination, December 2016**

**Subject : Microbiology**

**Paper – I : General Microbiology and Microbial Physiology**

**Time : 3 Hours**

**Max. Marks: 80**

**Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.**

**PART – A (8 x 4 = 32 Marks)  
(Short Answer Type)**

- 1 Contributions of Louis Pasteur
- 2 Scanning Electron Microscope
- 3 Define synthetic media
- 4 Lyophilization
- 5 Bergey's manual of systematic Bacteriology
- 6 Heterotrophic metabolism
- 7 Cell cycle in microbes
- 8 Synchronous culturing

**PART – B (4 x 12 = 48 Marks)  
(Essay Answer Type)**

- 9 (a) Describe the organization and function of cell organelles in microorganisms.  
**OR**  
(b) Write the principle and application of phase contrast microscopy.
- 10 (a) Give an account of physical and chemical methods of sterilization.  
**OR**  
(b) Describe the methods used for preservation and maintenance of microbial cultures.
- 11 (a) Write in detail about the methods used for identification of Bacteria.  
**OR**  
(b) Describe briefly about Microbial nutrition.
- 12 (a) Explain the factors affecting microbial growth.  
**OR**  
(b) Describe the different methods employed for microbial growth measurement.

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