

**FACULTY OF SCIENCE**

**M.Sc. II-Semester Examination, May / June 2015**

1212-14-518-00

**Subject : MICROBIOLOGY**

**Paper : I  
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 Chemolithotrophy
- 2 Methylophilic heterotrophy
- 3 Prototroph and auxotroph
- 4 Maintenance medium
- 5 Turbidometry
- 6 Continuous culturing
- 7 Spore germination
- 8 LD<sub>50</sub>

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

- 9 a) Define autotrophy and explain the autotrophic metabolism in bacteria.  
**OR**  
b) Explain the aerobic and anaerobic respiration in microorganisms.
- 10 a) Differentiate enrichment media and enriched media. How are these media designed and explain their importance?  
**OR**  
b) How is fungal growth medium different from bacterial medium? Explain the cultivation of heterotrophic fungi in laboratory.
- 11 a) Explain different growth phases of a batch culture and how are they important.  
**OR**  
b) Write on the different factors affecting the microbial growth and how are they monitored.
- 12 a) Explain the concept of disease by a pathogenic agent and write on the virulent factors responsible for causing a disease.  
**OR**  
b) Explain the physiology and biochemistry of bacterial endospore formation.

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