

**FACULTY OF SCIENCE**

**M. Sc. III – Semester Examination, December 2016**

**Subject : Microbiology**

**Paper – II : Industrial Microbiology**

**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 Slopping back
- 2 *Asperigllus niger*
- 3 ' Continuous fermentation
- 4• Secondary metabolite
- 5 Sodium alginate
- 6• Types of carriers
7. Media formation
- 8 Racking

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

- 9 (a) Discuss the history and scope of industrial microbiology.  
**OR**  
(b) Give a detailed account on biological assays of fermented products.
- 10 (a) Write a detailed account on sterilization of fermentation media.  
**OR**  
(b) Discuss the development of inoculum for industrial fermentation.
- 11 (a) Discus the design of fermentor and add note on different types of fermentation.  
**OR**  
(b) Explain the steps involved in fermentation of alcohol.
- 12 (a) Discuss the different methods involved in strain development strategies.  
**OR**  
(b) Write a detailed account on immobilization of microbial enzymes. Also a note on advantages of immobilization.

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