

**M.Sc. DEGREE (C.S.S.) EXAMINATION, JUNE 2015****Fourth Semester**

Faculty of Science

Branch VI—Botany—Elective—Microbiology

PE 3—INDUSTRIAL MICROBIOLOGY

(2012 Admission onwards—Regular/Supplementary)

Time : Three Hours

Maximum Weight : 30

I. Answer any *six* of the following each in not less than 50 words (weight 1 each) :

- |                       |  |
|-----------------------|--|
| 1 Biofuels.           | 2 Microbial metabolites.                       |
| 3 Bioethanol.         | 4 Name two industrially important antibiotics. |
| 5 Batch fermentation. | 6 Metabolic regulators.                        |
| 7 Ultrafiltration.    | 8 PLA.   |

(6 × 1 = 6)

II. Answer any *seven* of the following each in not less than 100 words (weight 2 each) :

- 9 Discuss the microbial production of streptomycin.
- 10 Importance of fermentation techniques in pharmaceutical industry.
- 11 Mention the principle of immobilization.
- 12 Explain fedbatch fermentation.
- 13 Scale up of fermentation.
- 14 What are the methods for storage of microorganisms at reduced temperature ?
- 15 Explain secondary screening of microorganisms.
- 16 What is the importance of carbon source in microbial fermentation ?
- 17 Give an account of airlift fermenter.
- 18 Explain amylase production by microbes.

(7 × 2 = 14)

III. Answer any *two* of the following each in not less than 250 words (weight 5 each) :

- 19 Give a brief account of downstream processing.
- 20 Explain the relevance of maintaining sterile condition in microbial fermentation.
- 21 Explain the methods of cell and enzyme immobilization.

(2 × 5 = 10)