2018

PG Even Semester (CBCS) Exam., May—2018

MICROBIOLOGY

(4th Semester)

Course No. : MIBCC–402

(Industrial Microbiology and Fermentation Technology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. Describe essential parts of fermentor with a note on each part and briefly discuss the economic aspects of fermentation. 14

2. Discuss the milestones in the development of industrial microbiology and suitability of microbes in industrial processes. 14

UNIT—II

3. Describe the steps involved in isolation, selection, improvement and maintenance of industrially important strains. 14

4. Write short notes on : 7×2=14

(a) Vitamins

(b) Secondary metabolites

UNIT—III

5. Write short notes on : 7×2=14

(a) Kinetics of thermal death of micro-organism

(b) Growth kinetics of microorganisms

6. Describe the effect of environment, media formulation and sterilization of fermentation processes. 14

UNIT—IV

7. Elaborate the foam and antifoam instrument control in fermentation with diagrams. 14

8. Write short notes on : 7×2=14

(a) Physical and chemical environment sensors

(b) Oxygen transfer kinetics in fermentation

UNIT—V

9. Describe Intellectual Property Rights (IPR) and the role of IPR in plant variety and biodiversity protection. 14

10. Write short notes on : 7×2=14

(a) Ion exchange chromatography

(b) Bioethics

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