PG Even Semester (CBCS) Exam., May—2017

MICROBIOLOGY

(4th Semester)

Course No. : MIBCC–402

(Industrial Microbiology)

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. *(a)* Discuss the milestones in the development of industrial microbiology. 7

(b) List out the essential parts of ferment and write a note on each part. 7

2. Write short notes on any *two* of the following : 7×2=14

(a) Submerged fermentation

(b) Recent development in industrial microbiology

(c) Economic aspect of fermentation

UNIT—II

3. Write short notes on any *two* of the following : 7×2=14

(a) Glycolytic pathway

(b) Antibiotics

(c) Primary metabolites

4. Discuss the role of site-directed mutagenesis and genome shuffling towards strain improvement in industrial microbiology. 14

UNIT—III

5. Describe in brief about growth kinetics of microorganisms and draw its relation with Monod's equation. 14

6. Explain the effect of different environmental factors influencing fermentation. 14

UNIT—IV

7. Explain how the various process parameters are monitored in a fermenter. 14

8. Write short notes on the following : 7×2=14

(a) Foam and antifoam—instrument control

(b) Turbidostat and chemostat

UNIT—V

9. Discuss the issues and topics of bioethics. 14

10. Write short notes on any *two* of the following : 7×2=14

(a) Intellectual Property Rights (IPR)

(b) Chromatography

(c) Different stages of downstream processing

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