

1058

B.A./B.Sc. (General) Fourth Semester

Industrial Microbiology

IMB-402: Microbial Technology

Time allowed: 3 Hours

Max. Marks: 33

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

- a) Give the component part of the fermentation process.
- b) What do you understand by pilot scale fermentation process?
- c) What is Niacin? How it differ from other antibiotics?
- d) Differentiate between biodegradation and biodeterioration?
- e) Name two each industrially important bacterial, fungal and algal species.
- f) What is biosorption? (6x1½)

**UNIT - I**

- II. Discuss about industrially important microorganisms and their screening for metabolites. (6)
- III. Describe the methods for identification of industrially important microorganisms. (6)

**UNIT - II**

- IV. Describe the methods for separation of biological products from the fermentation broth. (6)
- V. Write notes on the following:-
  - a) Fermentation conditions
  - b) Product recovery (3,3)

**UNIT - III**

- VI. What are antibiotics? Give their classes. Describe the production of Penicillin. (6)
- VII. Write notes on the following:-
  - a) Production of acetic acid
  - b) Production of vitamin B<sub>12</sub> (3,3)

P.T.O.



(2)

**UNIT - IV**

VIII. Discuss the biodeterioration of wood, paper and textiles. (6)

IX. Write notes on the following:-

a) Biobleaching of metals

b) Oil recovery

(3,3)

x-x-x