Roll No. | | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Tech. (Bio Tech) (2018 Batch) (Sem.–2)

FERMENTATION TECHNOLOGY

Subject Code : MTBT-203-18

M.Code : 76049

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1.Attempt any FIVE questions out of EIGHT questions.

2.Each question carries TWELVE marks.

1. Explain the industrial production process of Penicillin. (12)

2. Explain the basic design of a Bioreactor. Highlight the differences in operations and application of an Airlift fermenter and a continuous stir tank reactor (CSTR). (6+6)

3. Write short notes on **ANY THREE** :

   a) Antifoaming Agents (4)

   b) Secondary metabolites (4)

   c) Kinetics of a batch reactor (4)

   d) Bubble Column reactor (4)

4. What do you understand by the term "BREWING"? Enumerate the steps involved in the production of Beer with a neat process flow sheet. (4+8)

5. What are the design criteria for sterilization? Give a brief account of a design of a batch sterilization process. (6+6)

6. Discuss the criterion for selecting microorganisms for industrial production and enumerate different methods of industrially important microorganisms. (9+3)

7. Explain the steps involved in commercial production of Cheese. (12)

8. What are primary metabolites? Describe the production of ethanol with a neat diagram. (9+3)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.