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

Total No. of Questions : 08

M.Tech. (Bio Tech.) (2018 Onwards Batch) (Sem.–1)

BIOPROCESS ENGINEERING & TECHNOLOGY

Subject Code : MTBT-103-18

M.Code : 75764

Time : 2 Hrs. Max. Marks : 30

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE question(s), each question carries 6 marks.

1) Discuss important factors affecting microbial growth in a Batch culture system. Also explain growth kinetics for the same.

2) Compare various models used to predict fermentation kinetics. Explain compartmental model in detail.

3) Give a detailed account of methods used to sterilize air and media in a continuous fermentation system.

4) What does bioprocess control mean? Describe types of controllers and explain any one in detail.

5) Draw a well labeled diagram depicting operation of aseptic aerobic fermentation bioprocess.

6) Discuss various techniques used for biomass disruption and bioseparation. Give principles and methodology of centrifugation and microfiltration in detail.

7) Describe principle, method and applications of ultrafiltration.

8) Briefly explain principles and procedures of different chromatographic techniques. Discuss size exclusion and HPLC techniques in detail.