

Exam Date & Time: 16-Dec-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Bioprocess Engineering and Technology [PBT-MPB103T - S2]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Discuss the methodology adopted for selection of an industrially important organism. (10)
- 2) Enlist the methods used for sterilization of air. Describe the design of Clean rooms used for production of biologicals. (10)
- 3) Describe the construction, working and application of a rotary continuous filter. (10)
- 4) Discuss the production and recovery of a therapeutic enzyme. (10)
- 5) Describe the fermentative process for production and recovery of Penicillin G. (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Explain the advantages for using airlift fermenters over continuous stirred tank bioreactors. (5)
- 7) Explain the rheological behavior of a fermented broth during cultivation of a Streptomyces. (5)
- 8) Describe the criteria used in developing a protocol for inoculum development. (5)
- 9) Explain the factors affecting enzyme activity. (5)
- 10) Enlist the different types of biotransformation reactions. Describe the advantages of microbial transformations over chemical synthesis. (5)

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