

B.Sc. Semester - 6 (CBCS) Examination
April/May-2022 (OLD COURSE)
BIOPROCESS TECHNOLOGY(CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q.1 A Give the specific Answers [04]**
- a) What is plasmid?
 - b) Differentiate between Master strain and Working strain.
 - c) What is primary metabolite? Give example.
 - d) Define: Fermentation
- Q.1 B Answer in Brief (any one out of two) [03]**
- a) Give detail note on range of fermentation process.
 - b) Explain: Protoplast fusion for strain development.
- Q.1 C Write a Note on (any one out of two) [07]**
- a) Component parts fermentation process.
 - b) Recombinant DNA technology
- Q.2 A Give the specific Answers [04]**
- a) Enlist the carbon source used for media formulation.
 - b) Define media. Mention its types.
 - c) What are Antifoam agents?
 - d) Define inducers.
- Q.2 B Answer in Brief (any one out of two) [03]**
- a) Discuss in detail on nitrogen sources required for microbial fermentation.
 - b) Give a note on medium formulation
- Q.2 C Write a Note on (any one out of two) [07]**
- a) Inoculum Vs Production medium
 - b) Media optimization.
- Q.3 A Give the specific Answers [04]**
- a) What is Bioreactor?
 - b) Define: Del factor.
 - c) What id sparger? Give its function.
 - d) Define Baffles. Give its application in fermentor.
- Q.3 B Answer in Brief (any one out of two) [03]**
- a) Discuss in detail about various different criteria for design of fermentor.
 - b) Batch Vs continuous fermentation.
- Q.3 C Write a Note on (any one out of two) [07]**
- a) Types of agitators
 - b) Medium sterilization.
- Q.4 A Give the specific Answers [04]**
- a) Define: Precipitation
 - b) Define distillation. What type of the product can be purified by the distillation process?
 - c) Write types of centrifuges used in downstream process for cell separation.
 - d) Enlist chemical methods used for cell disruption.

- Q.4 B Answer in Brief (any one out of two)** [03]
- a) Give a detail note on filtration techniques for cell harvesting process.
 - b) Explain various physical methods used for cell disruption.
- Q.4 C Write a Note on (any one out of two)** [07]
- a) Liquid-liquid extraction.
 - b) Biological assay of fermentation process.
- Q.5 A Give the specific Answers** [04]
- a) What is proteolytic enzyme?
 - b) Write a mode of action of Penicillin antibiotic.
 - c) Define Immobilization.
 - d) Name the microorganism used to produce riboflavin.
- Q.5 B Answer in Brief (any one out of two)** [03]
- a) Give a detail note on Amylase enzyme.
 - b) Write a note on citric acid production.
- Q.5 C Write a Note on (any one out of two)** [07]
- a) Streptomycin production.
 - b) Production of ethyl alcohol.
