

B.Sc. Semester - 6 (CBCS) Examination
May/June-2021 (NEW COURSE)
Bioprocess Technology (Core)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figure to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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- Q.1(A) Objective type questions. (04)
1. What is fermentation?
 2. Enlist major group of fermentation process.
 3. Write the component parts of fermentation process.
 4. Define strain improvement. Give its example.
- Q.1(B) Answer in Brief (any one out of two) (03)
1. Give a note on component parts of fermentation process.
 2. Write a method of Protoplast fusion.
- Q.1(C) Write a Note on (any one out of two) (07)
1. Discuss in detail various range of fermentation process.
 2. What is screening? Discuss about types of screening methods used to isolate industrially important organisms.
- Q.2(A) Objective type questions. (04)
1. Define media. Enlist the various types of media.
 2. What is growth regulator? Give the significance of it in fermentation media.
 3. Write the properties of ideal antifoam agents.
 4. Distinguish between inoculum media and production media.
- Q.2(B) Answer in Brief (any one out of two) (03)
1. Give a note on medium formulation.
 2. Enlist the nitrogen sources used in media formulation and factors influencing the choice of nitrogen sources.
- Q.2(C) Write a Note on (any one out of two) (07)
1. Write a detail note on carbon sources used in fermentation media preparation.
 2. Discuss in detail on media optimization.
- Q.3(A) Objective type questions (04)
1. Define Del factor.
 2. What is baffles? Mention its function.
 3. Distinguish between fermentor and bioreactor.
 4. Explain batch fermentation.
- Q.3(B) Answer in Brief (any one out of two) (03)
1. Write a note on aseptic operation of fermenter.
 2. Short note on types of bioreactor.

- Q.3(C) Write a Note on (any one out of two) (07)
1. Define and discuss about aeration and agitation process carried out during fermentation process.
 2. What is fermentation? discuss continuous fermentation in detail and its advantage.
- Q.4(A) Objective type questions (04)
1. What is downstream processing?
 2. Define: Broth conditioning
 3. What is supercritical fluid extraction.
 4. Define precipitation. Give the name of chemical used for precipitation of fermented product.
- Q.4(B) Answer in Brief (any one out of two) (03)
1. Mechanical Vs Nonmechanical methods for cell disruption.
 2. Liquid-liquid extraction for product recovery.
- Q.4(C) Write a Note on (any one out of two) (07)
1. Discuss in detail about various types of filters used in removal of microbial cells from fermented broth.
 2. Give a detail note on various types of assays for fermentation product.
- Q.5(A) Objective type questions (04)
1. Give the name of L-lysine producing organism.
 2. What is antibiotic? Give the mode of action of streptomycin.
 3. Define koji fermentation process.
 4. What is protease? Give its industrial application.
- Q.5(B) Answer in Brief (any one out of two) (03)
1. Stabilization of Enzymes by means of Immobilization.
 2. Riboflavin production.
- Q.5(C) Write a Note on (any one out of two) (07)
1. Discuss in detail about Production of bacterial α -amylases.
 2. Discuss in detail about production methods and typical flowchart of penicillin fermentation.
