

2103000206021105
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (SIXTH SEMESTER)
BIO SCIENCE (MICROBIOLOGY) PAPER - X
(BS-605-FERMENTATION TECHNOLOGY)
-LEVEL 2

[Time: As Per Schedule]

[Max. Marks:50]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF SCIENCE (SIXTH SEMESTER)**
 - b. Name of the Subject : **BIO SCIENCE (MICROBIOLOGY) PAPER - X (BS-605-FERMENTATION TECHNOLOGY) -LEVEL 2**
 - c. Subject Code No : **2103000206021105**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Multiple choices Questions. (MCQs)

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1. Which of the following method is used in isolation & screening of micro-organisms?
(A) Crowded plate technique
(B) Auxanographic technique
(C) Enrichment Culture technique
(D) All
2. Primary metabolites produced during _____.
(A) Stationary phase
(B) Decline phase
(C) Growth phase
(D) None
3. Which of the following is absent in fermentation broth?
(A) Carbon Source
(B) Nitrogen Source
(C) Agar
(D) Water
4. Which of the following is a defined media?
(A) Synthetic media
(B) Complex media
(C) Natural media
(D) Crude media

5. Types of spargers includes:
 (A) Porous Sparger (B) Nozzle Sparger
 (C) Orifice Sparger (D) All
6. The _____ is a vessel that contains all the parts and conditions necessary for the growth of desired microorganisms.
 (A) Impeller (B) Sparger
 (C) Bioreactor (D) Baffles
7. Which of the following is a downstream process?
 (A) Product recovery (B) Screening
 (C) Media formulation (D) Sterilization of media.
8. _____ may interfere with downstream process steps and product analysis.
 (A) Antifoams (B) Fermentation by-products
 (C) Media impurities (D) All of the above

Q.2 (A) Give Specific answers 4

1. State the significance of screening.
2. Enlist the carbohydrates use in the fermentation process.
3. What is continuous fermenter?
4. Describe in brief downstream processing.

(B) Write short notes on any two of the following 10

1. Site directed mutagenesis for strain improvement.
2. Various uses of enzymes
3. Crude fermentation medium

Q.3 (a) Write in detail about major products & microbes involved in industry. 14

(b) Describe the characteristics of an industrially ideal organism.

OR

Write an essay on body construction & basic functions of stirrer bioreactor.

Q.4 Explain any two of the followings.

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1. Screening of antibiotic producing microorganism.
2. Major components of Growth media.
3. Stages of downstream processing.
