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RAN-2103000206021105

B.Sc. (Sem. VI) Examination March - 2025

Bioscience (Microbiology)

BS - 605: Fermentation Technology

Time: 2 Hours]

[Total Marks: 50

સૂચના : / Instructions

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નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

B.Sc. (Sem. VI)

Name of the Subject :

Bioscience (Microbiology) BS - 605: Fermentation Technology

Subject Code No.: **2103000206021105**

Seat No.:

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Student's Signature

- (2) Figures to the right indicate **full marks** of the question.
- (3) Draw neat and labeled **diagrams** whenever necessary.

Q.1. Multiple choices Questions. (MCQ)

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1. _____ is the primary metabolites.
(A) Penicillin (B) Ethanol
(C) Afla toxin (D) All
2. Screening of which of the following compound requires test microorganisms?
(A) Antibiotics (B) Organic acids
(C) Enzymes (D) Alcohols
3. Which of the following is responsible for the formation of foam?
(A) Media containing high protein
(B) Media containing high carbon
(C) Media containing high salt
(D) Synthetic media
4. Which of the following is absent in fermentation broth?
(A) Carbon Source (B) Nitrogen Source
(C) Agar (D) Water

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5. Types of spargers includes:

(A) Porous Sparger	(B) Nozzle Sparger
(C) Orifice Sparger	(D) All
6. Which of the following is used to protect the fermenter from environment cooling effect?

(A) Jacket	(B) Stirrer
(C) Baffle	(D) Sparger
7. Which of the following method is/are the example/s of non mechanical cell disruption?

(A) Antibiotics	(B) Detergents
(C) Osmotic shocks	(D) All of the above
8. _____ is the part of a finishing step of product recovery?

(A) Crystallization	(B) Filtration
(C) Centrifugation	(D) None

Q.2. (A) Give Specific answers 04

1. Enlist the methods used for strain improvement.
2. Name any two crude fermentation medium.
3. What is Batch fermenter?
4. State the name of species for production of Penicillin.

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

1. Selective induced mutation.
2. Types of filters
3. Cell harvesting and Cell disruption methods

Q.3. (a) Explain in detail about essential features of bioreactor. 14

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

OR

Q.3. Explain in details about media ingredients and media formulation. 14

Q.4. Explain any two of the followings. 14

1. Secondary screening method.
2. Reactor design for continuous fermenter.
3. Finishing steps of product recovery.