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(20425) Roll No. ... 8008
B.Sc. (Bio-tech.)-III Year

Vidushi

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**B.Sc. (Bio-Technology)
Examination, April-2025**

Industrial Bio-Technology

(B-306)

(B.Sc. Bio-Tech.)

Time : Three Hours] [Maximum Marks : 75

Note : Attempt any **five** questions. **All** questions carry equal marks.

1. Write a brief note on the followings. 15
 - (a) Transgenic cows
 - (b) Fermented Dairy products
 - (c) Food adulteration
2. What are immobilized enzymes? Write about their applications in industries. 15

P.T.O.

3. Explain about the microbial growth kinetics in batch, continuous and fed-batch fermentation process. 15

4. Briefly discuss about the followings:

3×5=15

(a) Solid state fermentation

(b) Waste as fermentation substrate

(c) Downstream process

5. Define about bioreactor. What are the different types of bioreactors? 15

6. Discuss the commercial production of citric acid with its applications. 15

7. Explain about the followings: 2×7.5=15

(a) Design and construction of the airlift bioreactor

(b) Difference between fermenter and bioreactor

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8. How cellulases and xylanases enzymes are produced by industrial process. Also write about their applications. 15

9. Write about the commercial production of antibiotics with special reference to penicillin. 15

10. Draw well labeled diagram of fermenter. Explain different parts of the fermenter in detail. 15

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