

Exam. Code : 107406

Subject Code : 2334

B.Sc. (Bio-Technology) 6th Semester

BIOPROCESS ENGINEERING—B

Paper—BT-5

Time Allowed—3 Hours] [Maximum Marks—40

Note :- Attempt the questions as directed.

SECTION—A

Note :- Attempt all the questions. 1×8=8

1. Write short notes on the following in about 50 words :

- (i) CSTBR
- (ii) Batch
- (iii) Plug flow
- (iv) Fed batch
- (v) D.O. Probe
- (vi) DSP
- (vii) Slug
- (viii) Effluent.

SECTION—B**Note :-** Attempt any **five** questions.

5×4=20

2. Discuss the CSTBR.
3. Discuss the air loop bioreactor.
4. Explain the functioning of pH probe.
5. Explain the functioning of DO probe.
6. Discuss the agitation system.
7. Explain the down stream processing.
8. What is fermentation economics ? Discuss.
9. What is effluent treatment ? Discuss.

SECTION—C**Note :-** Attempt any **two** questions.

2×6=12

10. Discuss the steady state kinetics of CSTBR.
11. Discuss the structure and functioning of galvanic DO probe.
12. Discuss the principle and procedure of super critical fluid extraction method for bio product recovery with an example.
13. Discuss the aerobic slug treatment process.