

22581

Name:

Reg. No.

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, JANUARY, 2012
(General Biotechnology)

GB3C2 – Bioprocess Technology
(2010 Admissions)

Time: Three hours

Maximum: 36 weightage

SECTION – A
(Answer all questions)

1. What is enrichment culture? Specify its applications.
2. What is polarographic electrode? Where it is used in Bioprocess?
3. What are baffles? What is its use?
4. What is Reynold's number? What is its significance?
5. What are precursors in fermentation media? Give examples.
6. What is fed batch culture? Mention some of its advantages.
7. What is SCP? What are its advantages?
8. What are auxotrophic mutants? Where it is used in Bioprocess?
9. What is check valve? Specify its merits.
10. What is reverse osmosis? What is its application?

(1x10=10 weightage)

SECTION – B
(Answer any seven questions)

Explain the following:

11. Industrially important products from Bioprocess.
12. Configuration of bioreactor.
13. Methods of secondary screening.
14. Microbial culture collection centres.
15. Kinetics in continuous culture.
16. Death kinetics in sterilization.
17. Airlift fermentors.
18. Factors affecting the fermentative production of metabolites.
19. Methods of chromatography in purification of metabolites.
20. Methods of cell immobilization.

(7x2=14 weightage)

SECTION – C
(Answer any two questions)

21. Discuss the different steps in the fermentative production of antibiotics. Comment on the production of penicillin.
22. Explain the different methods of downstream processing in typical bioprocess. Comment on the merits and demerits of each method.
23. What is volumetric oxygen transfer coefficient? Comment on its importance. Discuss the different methods used for the estimation of volumetric oxygen transfer coefficient in bioreactors.

(2x6=12 weightage)

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