

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2015

(CUCSS)

General Biotechnology

GB 3C2—BIOPROCESS TECHNOLOGY

Time : Three Hours

Maximum : 36 Weightage

Section A (Very Short Answer Type)*Answer **all** questions.*

1. What is Power number ?
2. What is secondary screening ?
3. Describe the method of entrapment for immobilisation.
4. What is photobioreactor.
5. What do you mean by pH probes ?
6. Mention the methods of agitation in fermenters ?
7. What you mean by antifoam agents ?
8. Distinguish between primary and secondary metabolites.
9. What is yield coefficient ?
10. What is dual fermentation ?

(10 x 1 = 10 weightage)

Section B (Short Answer Type)*Answer any **seven** questions.*

11. Explain the floc based reactors.
12. Discuss the online analysis of parameters in a fermentation process.
13. How the analysis of mixed microbial population in fermentation is achieved ?
14. **Distinguish between primary** and secondary metabolites. Briefly explain the microbial production of any secondary metabolite.
15. What is fed batch culture ?
16. Which are the important primary screening techniques ?
17. Explain microbial transformation with a suitable example.
18. Describe the sterilization techniques used in bioprocesses.

Turn over

19. Explain the microbial production of citric acid.
20. Which are the important factors to be considered in the body construction of a typical fermenter.
(7 x 2 = 14 weightage)

Section C (Essay type)

*Answer any **two** questions.*

21. Discuss the different techniques involved in the downstream processing of a bioprocess/fermentation.
22. What is Single Cell Protein ? Explain the production of SCP with a suitable example. Discuss the advantages and disadvantages of single cell proteins.
23. Describe the media formulation in atypical bioprocess.

(2 x 6 = 12 marks)