D 51717 (Pages : 2) Name

Reg. No....................

THIRD SEMESTER M.Sc. DEGREE EXAMINATION
DECEMBER 2013

(CUCSS)

Biotechnology

GB 3C2 – BIOPROCESS TECHNOLOGY

Time : Three Hours   Maximum : 36 Weightage

Section A

Answers all *questions.*

1. What is the role of phenylacetic acid in the fermentative production of penicillin?

2. Specify the different types of impellors used in the designing of bioreactors.

3. Give the schematic representation of plug valve in reactor systems.

4. What is specific growth rate? Compare the maximum specific growth rate of plant cells with that of bacterial cells.

5. What are antifoam agents? Give examples.

6. What are bafles? Specify its uses.

7. What are proportional, derivative and integral control systems? Specify their applications.

8. What is SCP? Comment on its applications.

9. Discuss the various methods of drying. Comment on their applications.

10. What is Placket-Burman model? Comment on its applications.

(10 x 1 = 10 weightage)

Section B

Answer any seven *questions.*

Explain the following :

11. Patenting in Bioprocess.

12. Market potential in fermentation industry.

13. Washing out in continuous culture.

14. Direct and Indirect methods of industrial sterilization.

Turn over

15. Continuously stirred tank fermentor.

16. The technique of gel filtration.

17. Dialysis and its application.

18. Sonication and its applications.

19. Substrate saturation constant and its significance.

20. Maintenance coefficient and its significance.

(7 x 2 = 14 weightage)

Section C

Answer any **two** *questions.*

21. What is immobilization? Discuss the various methods of immobilization. Comment on the application of each method.

22. Discuss the different components in a typical fermentation medium. Explain the role of each. Explain the application of statistical models in media designing.

23. What is a bioreactor? Discuss the important components of a typical bioreactor. Explain the various types of bioreactors and comment on its uses.

(2 x 6 = 12 weightage)