

Reg. No. :

Name :

Sixth Semester B.Sc. Degree Examination, April 2023
Career Related First Degree Programme under CBCSS
Group 2(a) – Botany and Biotechnology
BB 1671 : FOOD AND INDUSTRIAL BIOTECHNOLOGY
(2015 – 2018 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions in a word or **one** of **two** sentences.

1. Name a microorganism widely used in dairy industry.
2. What is primary screening of microbes?
3. Name any one industrially important fermentation product.
4. Why a bubble column bioreactor is called so?
5. What is the source of carbon in bacterial culture media?
6. What is meant by downstream processing?
7. State the importance of single cell proteins.
8. Manufacture of beer is also known as?
9. What is the most common bacterial cause of diarrhoea?
10. State the role of rennet in cheese making.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions. Answer not to exceed **one** paragraph.

11. What is the use of impeller in a fermenter?
12. Name two different types of fermentations.
13. What you mean by a starter culture?
14. Write the chemical equation of alcohol fermentation.
15. Write the advantages of continuous stirred bioreactors.
16. Name two techniques used for the separation of biomass from the culture filtrate during downstream processing.
17. Enlist the important chemical composition of an ideal production media.
18. What you mean by solid state fermentation?
19. What are immobilized enzymes?
20. What do you mean by homogenized milk?
21. How the salt preserves food?
22. Give two examples of chemical food preservatives.

SECTION – C

(8 × 2 = 16 Marks)

Answer any **six** questions. Answer not to exceed half page.

23. Brief on the different primary screening methods to screen and isolate industrially important microorganisms.
24. Explain the essential parts of a typical bioreactor and mention the function of each one.

25. What are the methods for the sterilization of the bacterial media?
26. Explain the sequential steps involved in downstream processing the recovery of fermentation product.
27. Differentiate between batch fermentation and continuous fermentation.
28. Write about the production and applications of single cell protein.
29. What are the desired characteristics of a microorganism to be used for commercial purpose?
30. Write a note on the microbial production of protease and amylase.
31. Give the basic steps involved in the industrial cheese manufacturing

SECTION – D

(6 × 4 = 24 Marks)

Answer any **two** questions. Answer not to exceed **3** pages.

32. Explain the process of fermentation with special reference to alcohol and lactic acid fermentations
33. Write an essay on the ideal characteristic of media for industrial fermentation and ideal physical parameters for the microbial growth
34. Explain the various food preservation techniques with the principles behind each of them.
35. Write an essay on various food-borne disease and intoxications.

(2 × 15 = 30 Marks)