K23U 2370

Reg. No. : .....

Name : .....

V Semester B.Sc. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2023

(2019-2021 Admissions)

CORE COURSE IN MICROBIOLOGY

5B07MCB : Microbial Biotechnology

Time : 3 Hours Max. Marks : 40

SECTION – A

Answer **all** questions in **one** or **two** sentences. **Each** question carries **1** mark.

1. Phenyl acetic acid.
2. Sulphite waste liquor.
3. Fermentation.
4. Chromatography.
5. *Clostridium acetobutrylicum.*
6. Alpha amylase.

(6×1=6)

SECTION – B

Write briefly on **any six** of the following. **Each** question carries **2** marks.

7. What is auxanography technique ?
8. Brief note on materials used for bioreactor construction.
9. What chemical methods used for extracting intracellular products ?
10. Discuss about the types of bread.

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11. Brief note on types of Immobilization.
12. Discuss about biosensor.
13. Write a note on production of amylase.
14. Write about *Bacillus thuriengenesis*.

(6×2=12)

SECTION – C

Write short essay on **any four** of the following. **Each** question carries **3** marks.

15. With neat diagram explain the parts of fermenter.
16. Explain on chromatography technique used in downstream process.
17. Write a note on bread and vinegar production.
18. Discuss the recovery of citric acid.
19. Difference between proteases and amylases.
20. Explain the production of Vitamin B12.

(4×3=12)

SECTION – D

Write essays on **any two** of the following. **Each** question carries **5** marks.

21. Explain the medias used in fermentation.
22. Discuss the production of acetone-butanol.
23. Explain the types of fermentation.
24. Write the filtration and centrifugation methods involved in downstream processing.

(2×5=10)
