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(Pages : 2)

Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Microbiology

MBG 5B 06—INDUSTRIAL MICROBIOLOGY

(2019 Admissions)

Time : Two Hours and a Half

Maximum : 80 Marks

Section A

Answer at least ten questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 30.

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|----------------------------------|--------------------------------------|
| 1. Molasses. | 2. Chemostat. |
| 3. Sparger. | 4. Crowded plate technique. |
| 5. Cyanocobalamin. | 6. Fed batch culture. |
| 7. Brewer's Yeast. | 8. Ion exchange chromatography. |
| 9. Acetone butanol fermentation. | 10. Inducers in fermentation medium. |
| 11. Microbial transformation. | 12. Sparkling wine. |
| 13. Secondary screening. | 14. Distillation. |
| 15. Airlift fermenter. | |

(10 × 3 = 30 marks)

Section B

Answer at least five questions.

Each question carries 6 marks.

All questions can be attended.

Overall Ceiling 30.

16. Discuss various types of cultures used in fermentation with appropriate examples.
17. Narrate the applications of solid-state fermentation with examples.

Turn over

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18. Illustrate the industrial production of lactic acid.
19. What are the various approaches used for the improvement of strains for industrial fermentation?
20. Discuss the industrial production of ethanol.
21. Investigate various processes involved in the extraction and purification of extracellular and intracellular products.
22. Elucidate the principle, upstream and downstream processing involved in the industrial production of Penicillin.
23. Write a relevant note on WIPO.

(5 × 6 = 30 marks)

Section C

Answer any two questions.

Each question carries 10 marks.

24. Discuss various control systems in fermentation with suitable mathematical formulations.
25. What are the various methods used for the preservation of cultures for industrial use? Discuss.
26. Examine the steps involved in the industrial production microbial enzymes with suitable examples.
27. What do you mean by IPR? Discuss various types of IPR with suitable examples.

(2 × 10 = 20 marks)