

D 90242-B

(Pages : 3)

Name.....

Reg. No.....

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION
NOVEMBER 2020**

(CUCBCSS—UG)

Microbiology

MBG 5B 06—INDUSTRIAL MICROBIOLOGY

(2018 Admissions)

Time : Three Hours

Maximum : 80 Marks

Draw diagrams wherever necessary.

Section A

Answer all questions.

Each question carries ½ mark.

1. The part of the bio fermenter preventing vortex formation is ———.
2. The term fermentation was coined by :
(Alexander Fleming, Robert Koch, Louis Pasteur, R. H. Whittaker)
3. The microbial strain unable to synthesize a particular growth factor is called ———.
4. The limiting growth factor in beet molasses is :
(Biotin, Betaine, Thiamine, Pantothenic acid).
5. The fluids above their critical temperature and pressure are called ———.
6. In downstream processing freezing-thawing is used for the recovery of ——— products.
7. Name the production strain used for industrial production of penicillin.
8. Expand IPR.
9. The headquarters of WIPO is situated in ———.
10. The production strain used for α -amylase is :
(*Bacillus licheniformis*, *Corynebacterium glutamicum*, *Saccharomyces cerevisiae*, *Streptomyces olivaceus*).

Turn over

11. The legal rights granted for new inventions are called _____.
12. Orleans process is used for the industrial production of _____.
(Penicillin, Citric acid, Vitamin B12, Acetic acid).

(12 × 1 = 12 marks)

Section B

Answer at least eight questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 24.

13. What are secondary metabolites ? Give one example.
14. What are the objectives of using impellers in a biofermenter ?
15. What is corsteep liquor ?
16. What is the application of crowded plate technique in industrial microbiology ?
17. Explain solid sheer technique.
18. What are filter aids ?
19. What is homolactic fermentation ?
20. What is solid state fermentation ?
21. What are non-patentables ?
22. What is a trade mark ?

(8 × 3 = 24 marks)

Section C

Answer at least five questions.

Each question carries 6 marks.

All questions can be attended.

Overall Ceiling 30.

23. Use of computers in fermentation industry.
24. Raw materials used for fermentation media preparation.
25. Methods for primary screening of production strains.
26. Cell disruption techniques.
27. Vitamin B12 production.

28. Different forms of IPR.
29. Steroid transformation.
30. Culture preservation techniques.

(5 × 6 = 30 marks)

Section D

Answer any one question.

The question carries 14 marks.

Write essays on :

31. With the help of a suitable diagram describe the design of a typical fermenter.
32. Describe the characteristics of an ideal production strain. Add a note on strain improvement techniques.
33. Describe the steps involved in wine production.

(1 × 14 = 14 marks)