GS-363

VI Semester B.Sc. Examination, May/June - 2019

BIOTECHNOLOGY

Industrial Biotechnology (Paper-VIII) (F+R) (CBCS-2016-17 & Onwards/2013-14 & Onwards)

Time: 3 Hours Max. Marks: 70

Instructions: Draw neat labelled diagram wherever necessary.

SECTION - A

- I. Write short notes on the following:
 - 1. Liquid Nitrogen preservation
 - 2. Limitations of submerged fermentation
 - 3. Semi synthetic penicillins
 - 4. Continuous flow reactor
 - 5. Yoghurt

SECTION - B

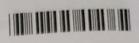
II. Answer any four of the following:

4x5 = 20

5x2=10

- 6. Improvement of strains by recombinant DNA technology.
- 7. Write a note on heat sterilization techniques.
- 8. Explain single cell Oil.
- 9. Give an account of synthetic media.
- 10. Describe enzyme immobilization.

P.T.O.



SECTION - C

III. Answer any three of the following :

3ж10=30

- 11. Explain in detail the steps involved in production of Xanthan gum. Add a note on its applications.
- 12. Give an account of down stream processing with reference to :
 - (a) Solvent recovery
 - (b) Cell disruption
- 13. Discuss in detail about microbial enzymes and add a note on its applications in leather and detergent industries.
- 14. Explain the different types of spargers and impellers. Add a note on its advantages.
- 15. Describe in detail the production of Glutamic acid and Vitamin B_{12} .

SECTION - D

IV. Answer the following in one word or a sentence each :

10x1=10

- 16. What is trophophase?
- 17. Define strain.
- 18. Write any two raw materials used in solid state fermentation.
- 19. What are antifoam agents?
- 20. Define crystallisation.
- 21. What is lagering?
- 22. Name the strains involved in Idli fermentation.
- 23. What is benzyl penicillin?
- 24. Expand PHB.
- 25. What is Molasses?