19. Elaborate the steps involved in industrial production of alcohol.

20. With the help of flow chart explain the process of manufacturing Penicillin.

S.No. 2626 **P 16 BOE 2**

(For candidates admitted from 2016–2017 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022.

Botany — Elective

INDUSTRIAL MICROBIOLOGY

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20)

Answer ALL questions.

1. Biotransformation.

2. Stock culture.

3. Continuous Stirred Tank Bioreactor.

4. Cryopreservation.

5. Uses of hydrogen fuel.

6. Biomining.

7. Importance of single cell protein.

8. Yoghurt.

9. Gasification.

10. Subunit vaccine.

SECTION B — (5 × 5 = 25)

Answer ALL questions, choosing either (a) or (b).

11. (a) Give a brief account on the role of microorganisms in industrial products.

Or

(b) Examine the methods for preparation of inoculums.

12. (a) Compare and contrast biochemical and chemical process.

Or

(b) Enumerate the factors affecting in fermentation system.

13. (a) Enumerate the economic importance of methanotrophs.

Or

(b) Bring out the role of microorganisms in mineral leaching.

14. (a) Discuss the Orleans process of vinegar production.

Or

(b) Highlight the importance of fermented vegetables in industrial level.

15. (a) How streptomycin is produced?

Or

(b) Discuss the manufacture of vitamins in industrial level.

SECTION C — (3 × 10 = 30)

Answer any THREE questions.

16. Describe in detail on the batch and continuous sterilization system.

17. Expound the principle of operation characteristics in typical fermentor.

18. 'A biogas unit produces clean fuel, good manure and improves sanitation' — Justify.