

B. Sc. DEGREE EXAMINATION, NOVEMBER 2007
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR – CORE
PAPER : INDUSTRIAL MICROBIOLOGY
TIME : 3 HOURS

MAX.MARKS:100

SECTION – A

ANSWER ALL QUESTIONS

(18 marks)

I Match the following:

1. SCP - *Bacillus subtilis*
2. Vitamin A - *Aspergillus niger*
3. Koji process - *Pseudomonas denitrificans*
4. Vinegar - *Pleurotus spp*
5. Protease - *Acetobacter spp*

II. State whether true or false:

6. Raw material for wine production is sugar cane molasses.
7. Streptomycin inhibits cell wall synthesis of G⁺ bacteria.
8. Vitamin B₁₂ is produced by intestinal microbes.
9. Camembert is a soft cheese.
10. Biogas production is strictly an anaerobic process.

III. Fill in the blanks with reference to any three parts of fermentor and their uses:

(3x2=6)

	Part	Use
11.
12.
13.

IV. Name the product obtained from:

(2x1=2)

14. *Corynebacterium*
15. *Methanobacterium*

Answer any six of the following in 50 words each:

(6x3=18)

16. Applications of citric acid
17. Roquefort cheese
18. Microbial sources for amylase
19. Buffers in fermentation
20. Upstream process
21. Red wine
22. Baker's yeast
23. Starter culture
24. Biosensor

SECTION – B

Answer any four questions. Each answer not to exceed 200 words. Draw diagrams wherever necessary: (4x6=24)

25. Enumerate the methods involved in vinegar production.
26. Describe in brief the principles of cheese manufacturing.
27. Explain the production procedure of Streptomycin.
28. Discuss the isolation and inoculum preparation of industrially important microbes.
29. Describe optimization procedure for fermentation.
30. Elaborate the mass production of single cell proteins.

SECTION – C

Answer any two questions. Each answer not to exceed 1000 words. Draw diagrams wherever necessary: (2x20=40)

31. Write the process of protease production in industries.
32. What is brewing? How is wine produced in large scale?
33. Write detailed account on microbial production of Vitamin B₁₂
34. Give the design of a gobar gas plant. Explain the steps involved in biogas production.
