

Exam. Code : 107404

Subject Code : 2307

B.Sc. (Bio-Technology) 4th Semester

**AGRO AND INDUSTRIAL APPLICATIONS OF
MICROBES-B**

Paper-BT-7

Time Allowed—3 Hours]

[Maximum Marks—40

Note :- Attempt five questions from Section-B and two questions from Section-C. Section-A is compulsory.

SECTION—A

1. Describe briefly :

(i) Biopesticides

(ii) Vermiculture

(iii) Mycotoxins

(iv) Biofertilizers

(v) Mycorrhizal fungi

(vi) Mycoherbicides

(vii) Biochips

(viii) Red Vs. white wine.

1×8=8

SECTION—B

2. How vermicomposting is different from traditional composting? Explain.
3. What is a surfactant? Describe the production of surfactants.
4. What are single cell proteins ? Describe the production of fungal SCP.
5. Describe the fermentative production of vitamin B12.
6. What is BT gene ? Describe the incorporation of BT gene in BT cotton.
7. Describe the plant and microbe interactions in biological nitrogen fixation.
8. Describe briefly the production technology of beer.
9. Describe the production of penicillin. 5×4=20

SECTION—C

10. Describe the microbes involved in the production of antibiotics and pharmaceutical drugs.
11. Discuss the fermentative production of organic acids.
12. Describe the large scale production of *Spirulina* as single cell proteins.
13. What are secondary metabolites ? Describe the production of a secondary metabolite by tissue culture technique. 2×6=12