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**BSCBOC 352**

**Credit Based Sixth Semester B.Sc. Degree Examination, April/May 2017  
(Semester Scheme 2015 – 16 and Earlier Batches)**

**BOTANY – VIII**

**Anatomy, Microbiology, Biotechnology and Plant Propagation**

Time : 3 Hours

Max. Marks : 80

- Instructions :** 1) Answer Part **A** and Part **B**.  
2) Answer **four full** questions from Part **B** choosing **one full** question from **each** Unit.  
3) **All** questions in Part **B** carry **equal** marks.

**PART – A**

1. Answer **any ten** of the following : (2×10=20)
- i) Give the features of meristems.
  - ii) Mention the types of collenchyma.
  - iii) Mention the types of secretory tissue.
  - iv) What is tongue grafting ?
  - v) What are lenticels ?
  - vi) Give the features of epidermis of monocot leaf.
  - vii) What are antibiotics ? Mention any two microbial sources of antibiotics.
  - viii) Name any two microbes used in biomining.
  - ix) Name any two microbes used in wine production.
  - x) What are phages ? Give one example.
  - xi) Write two applications of protoplast culture.
  - xii) What are monoclonal antibodies ?

P.T.O.



## PART – B

## Unit – I

2. a) Explain the structure of shoot apex. 4  
 b) What are sclerenchyma fibres ? Add a note on its types and functions. 4  
 c) Explain the structure and functions of tracheary elements. 7

OR

3. a) In brief explain the structure of apical meristem of root. 3  
 b) Explain the structure and functions of sieve tubes. 5  
 c) Describe the structure, distribution and functions of parenchyma. 7

## Unit – II

4. a) Explain any two types of layering. 4  
 b) Write a note on springwood and autumn wood. 4  
 c) Explain the anatomy of dicot leaf. 7

OR

5. a) What is Casparian Band ? Mention its significance. 3  
 b) Explain the process of secondary growth in the dicot root. 5  
 c) Describe the anatomy of dicot stem. 7

## Unit – III

6. a) Write a note on Endomycorrhizae. 4  
 b) What is Biogas ? Add a note on its composition and advantages. 4  
 c) Give an account of microbial food spoilage in fruits, vegetables and grains. 7

OR





- 7. a) Write a note on applications of microbes in dairy. 3
- b) Explain salting and low temperature as methods of food preservation. 5
- c) Explain **Staphylococcal** and **Clostridial** food poisoning. 7

**Unit – IV**

- 8. a) Explain the structure of pBR 322. 4
- b) What are transgenic plants ? Add a note on their advantages and disadvantages. 4
- c) Describe the process of Anther culture. 7

OR

- 9. a) Explain different types of sterilization employed in tissue culture. 3
- b) What are REN enzymes ? Add a note on their types and properties. 5
- c) Explain the steps involved in meristem culture. 7