



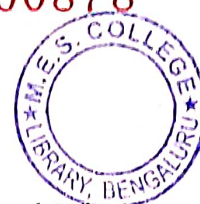
**GN-245**

100878

V Semester B.Sc. Examination, December - 2019  
(CBCS) (F+R) (2016-17 and Onwards)

**BOTANY - VI**

**Molecular Biology, Genetic Engineering, Biotechnology and Plant Physiology**



Time : 3 Hours

Max. Marks : 70

**Instructions :** (i) Answer **all** Parts.  
(ii) Draw diagrams and write examples wherever necessary.

**PART - A**

A. Explain/Define **any ten** of the following in **two** or **three** sentences. **10x2=20**

1. Mention the differences between DNA and RNA.
2. What is nucleotide ?
3. What is permeability ? Mention their types.
4. Write uses of microbes in industry.
5. Name any two response of plants to water stress.
6. What is anti-transparent ? Give any two examples.
7. Draw a neat labelled diagram of t-RNA.
8. What is Topoisomer ? Give an example.
9. What is deplasmolysis ?
10. What is guttation ?
11. Define macro nutrients. Give an example.
12. What is protoplasmic streaming ?

**P.T.O.**

**PART - B**

**B.** Write critical notes on **any four** of the following :

**4x5=20**

13. Water potential.
14. Vein loading and unloading.
15. Components of Lac Operon.
16. Uses of Bio-Informatics.
17. Salt stress.
18. Deficiency symptoms and physiological importance of Nitrogen and Boron.

**PART - C**

**C.** Give a comprehensive account of **any three** of the following :

**3x10=30**

19. Production of Ethanol.
20. (a) Starch and Sugar hypothesis.  
(b)  $K^+$  ion exchange theory.
21. Biosynthesis of Protein.
22. Dixon and Jolly's theory of Ascent of Sap.
23. Recombinant DNA technology.

- o O o -