



GN-245

100512

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.

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