



ATN – 39

**B.Sc. (Semester – V) Examination, October/November 2018**  
**BOTANY**

**Paper – XI : (Plant Biochemistry and Molecular Biology)**

Duration : 2 Hours

Max. Marks : 80

- Instructions :**
- 1) **All questions are compulsory.**
  - 2) **Answer to question 1 and 2 should be in brief.**
  - 3) **Figures to the *right* indicate maximum marks.**
  - 4) **Draw neat labelled diagrams/graphs *wherever* necessary.**

1. Answer **any four** of the following :

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- i) Briefly classify carbohydrates with appropriate example of each.
- ii) Write a note on polyunsaturated fatty acids.
- iii) Discuss in brief the biological function of Vitamin A.
- iv) Distinguish between B DNA and Z DNA.
- v) With the help of diagram, explain the formation of polypeptide chain.
- vi) Write a note on mRNA stability.

2. Answer **any four** of the following :

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- i) Explain in brief the biosynthesis and degradation of Sucrose.
- ii) Give the functions of membrane lipids.
- iii) Write a note on immunoglobulins.
- iv) Discuss in brief the process of DNA recombination.
- v) Give the characteristics of a genetic code.
- vi) Explain in brief the gene organization in prokaryotes.

3. A) Write a note on bioconversion of carbohydrates to bioethanol.

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OR

A) Describe the steps involved in fatty acids synthesis.

B) Discuss the chemistry, biological functions and occurrence of Vitamin C.

6  
P.T.O.





4. A) What are antigens ? Add a note on its types.

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OR

A) Explain in brief the replication of DNA.

B) Briefly describe the chemical composition of chromatin.

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5. A) Write a note on biosynthesis of amino acid by ammonium assimilation.

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OR

A) Write a note on post translational modification of proteins.

B) Explain in brief the negative and positive gene regulation in prokaryotes.

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6. A) With the help of neat labeled diagram, explain in brief the structure of prokaryotic and eukaryotic ribosomes.

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OR

A) With the help of illustration, describe the lac-operon model for the regulation of protein synthesis in prokaryotes.

B) Write a note on DNA polymerases.

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