

B.Sc. (Semester – V) Examination, October/November 2016
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 brief.**

3) **Figures to the right indicate maximum marks.**

4) **Draw neat labeled diagrams wherever necessary.**

1. Answer **any four** of the following : 16
- i) What is glycobiology ? State its role.
 - ii) Write a note on PUFA.
 - iii) Explain the A and Z forms of DNA.
 - iv) What are amino acids ? Explain essential and non-essential amino acids.
 - v) Write a note on DNA polymerase.
 - vi) What is vitamin B-complex ? State their functions.
2. Answer **any four** of the following : 16
- i) Write a note on plant lectins.
 - ii) State the functions of proteins.
 - iii) Write a note on liposomes.
 - iv) Explain "DNA recombination".
 - v) What are peptide bond and polypeptide chain ?
 - vi) Write a note on Edible vaccines.
3. A) What are carbohydrates ? Explain the process of degradation of starch. 6
- OR
- A) Write a note on " α -oxidation of fatty acids".
- B) Discuss the chemistry, biological function and occurrence of Vitamin D. 6



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4. A) Write a note on immunoglobulins.

6

OR

A) Explain the process of denaturation and renaturation of DNA.

B) Give an account of the structure of chromatin.

6

5. A) Explain the process of translation during protein synthesis.

6

OR

A) Write a note on mRNA stability.

B) Explain "Gene organization in Prokaryotes".

6

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

6

OR

A) What is RNA silencing? Explain.

B) Describe the operon concept.

6