

Roll No.

(07/21-II)

5264

B. Sc. EXAMINATION

(For Batch 2011 & Onwards)

(Sixth Semester)

BOTANY

Paper-I

Bio-Chemistry and Plant Bio-Technology

Time : Three Hours

Maximum Marks : 40

Note : Question No. 1 is compulsory. Attempt *four* more questions, selecting *two* questions from each Unit. Support your answers with labelled diagrams wherever necessary.

1. Answer the following questions in short :

- (a) What are conjugate enzymes ? 1
- (b) Define differentiation. 1

(S-30/10)B-5264

P.T.O.

- (c) Which phytohormone help in stomatal closure ? 1
- (d) What do you mean by unsaturated fatty acids ? 1
- (e) What role leghaemoglobin plays in root nodules ? 1
- (f) Define exonuclease enzyme. 1
- (g) What is gene bank ? 1
- (h) Define GMOs. 1

Unit I

- 2. What do you mean by enzymes ? What role does they play in a cell ? Discuss various properties of enzymes. 8
- 3. What do you mean by growth hormones ? Discuss the physiological roles and functions of Auxines. 8
- 4. Write notes on the following :
 - (a) Beta Oxidation 4
 - (b) Biosynthesis of fatty acids. 4

B-5264

5. What do you mean by growth ? Discuss in detail phases of growth with growth curves. 8

Unit II

6. Write notes on the following :
- (a) Assimilation of Nitrate 3
 - (b) Non-symbiotic nitrogen fixation 3
 - (c) Nitrification. 2
7. Discuss the mechanism of nitrogen fixation in leguminous plants. 8
8. What are cloning vectors ? Discuss properties and sources of cloning vectors. 8
9. What are transgenic plants ? Discuss various techniques used for gene transfer in plants. 8