

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

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- (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

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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 : 1
- (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

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