

Roll No.

(07/22-II)

5264

B.Sc. EXAMINATION

(Sixth Semester)

BOTANY

Paper I

Bio-chemistry and Plant Bio-technology

Time : Three Hours

Maximum Marks : 40

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

1. Answer the following questions in short :
 - (a) What are conjugate enzymes ? 1
 - (b) What do you mean by dedifferentiation ? 1
 - (c) Which phytohormone help in ripening of the fruits ? 1

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- (d) What do you mean by saturated 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 phytohormones ? Discuss the physiological roles and functions of Cytokinins. 8
4. Write notes on the following :
- (a) Beta Oxidation 4
- (b) Biosynthesis of fatty acids. 4

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) Nitrate Assimilation 3
 - (b) Nitrogen fixation in the atmosphere 3
 - (c) Nitrification. 2
7. Discuss the mechanism of nitrogen fixation in leguminous plants. 8
8. What are cloning vectors ? Discuss their properties and sources. 8
9. What are transgenic plants ? Discuss its techniques with the help of examples. 8

Or

Discuss various methods of sterilization used in plant tissue culture techniques. 8