2025

(FYUGP)

(6th Semester)

BOTANY

(MAJOR)

Paper : BCC–13(T)

(Plant Metabolism)

Full Marks : 75
Pass Marks : 40%

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Discuss in detail the synthesis and degradation of sucrose in plants. 15

Or

Write notes on the following : 7½×2=15

(a) Role of regulatory enzyme in regulation of metabolism

(b) Anabolic and catabolic pathway

2. Explain C_4 pathway of photosynthesis. Add a note on the role of photosynthesis pigments. 8+7=15

Or

Write notes on the following : 7½×2=15

(a) Mechanism of ATP synthesis in photochemical reaction

(b) Photorespiration

3. Describe the reactions of TCA cycle indicating the enzymes involved and the site of ATP synthesis with labelled diagram. 15

Or

Write notes on the following : 7½×2=15

(a) Glycolysis

(b) Pentose phosphate pathway

4. What is signal transduction? Explain the role of cGMP in plant signal transduction. 15

Or

Write notes on the following : 7½×2=15

(a) Second messenger concept

(b) Calcium calmodulin

5. Discuss in detail the steps involved in β-oxidation and its role in mobilisation of lipids. 15

Or

Write notes on the following : 7½×2=15

(a) Nitrate assimilation

(b) Synthesis of triglycerides

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