2023
B.A./B.Sc.
Sixth Semester
CORE – 13
BOTANY
Course Code: BOC 6.11
(Plant Metabolism)

Total Mark: 70 *Pass Mark: 28*
Time: 3 hours

Answer five *questions, taking* one *from each unit.*

UNIT–I

1. Define metabolism. Explain the regulation and functions of metabolism. 2+12=14

2. Explain the synthesis of sucrose with the help of a flow chart. 14

UNIT–II

3. Define photochemical reaction. Explain the photosynthetic electron transport. 3+11=14

4. Explain the CAM cycle with the help of a flow chart. 14

UNIT–III

5. Define glycolysis. Explain in detail the regulation of glycolytic pathway. 2+12=14

6. Explain the mechanism of malate-aspartate shuttle for the transfer of NADH from the cytosol to the mitochondrial matrix. 14

UNIT–IV

7. Explain Boyer's confirmation coupling hypothesis and Racker's experiment on ATP synthase. 14

8. Write notes on the following: 7×2=14
   (a) Substrate level phosphorylation
   (b) ATP synthase

UNIT–V

9. Explain glyoxylate cycle with schematic flow chart. 14

10. Give an account on nitrate assimilation. Add note on the mechanism of nitrogen fixation. 10+4=14