

5/H-62 (v) (Syllabus-2015)

2022

(November)

BOTANY

(Honours)

[BOTH-501]

(Plant Physiology and Biochemistry)

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

**Answer Question No. 1 which is compulsory and
four questions, selecting one from each Section**

1. Write notes on the following : 4×4=16

(a) Criteria of essentiality of mineral elements

(b) Structure of PS I and PS II

(c) Role of gibberellic acid in regulation of seed dormancy

(d) Vitamins as co-enzymes

(2)

SECTION—I

2. Write notes on the following : 5+5=10
- (a) Mechanism of active transport of minerals in plants
 - (b) Different components of water potential
3. Write down the role of manganese and potassium in plant nutrition. Describe their deficiency symptoms in plants. 5+5=10

SECTION—II

4. (a) Explain how electron transport in the chloroplast drives the photolysis of water. 5
- (b) Write an explanatory note on glycolysis. 5
5. Write short notes on : 5+5=10
- (a) Nitrogenase enzyme
 - (b) GOGAT system in ammonia assimilation

SECTION—III

6. (a) Discuss the role of vernalization in flowering. 5
- (b) Describe, in brief, the physiology of senescence in plants. 5

(3)

7. Write notes on the following : 5+5=10
- (a) Phytochrome and its significance in plants
 - (b) Regulation of seed dormancy

SECTION—IV

8. Describe, in detail, the hierarchy in protein structure. 10
9. (a) Give an account of the classification of enzymes. 5
- (b) What is Michaelis-Menten constant? Mention its significance. 2+3=5
