Sixth Semester B.Sc., Degree Examinations

May / June 2026

(CBCS NEP Scheme)

BOTANY

Sub. Code : NSF 0620 : Paper : VIII : Plant Physiology and Biochemistry

Time: 2 hrs.] [Max.Marks : 60

Instructions to Students :

1. *The students should legibly write Section number along with question numbers within the margin ONLY.*
2. *The answers without Section number and question numbers will not be valued.*
3. *Draw neat and labeled diagram wherever necessary.*
4. *Section – I Multiple Choice Questions should be answered in the First Page of Main answer book and same questions shall not be answered repeatedly.*
5. *Any identifications like marking, ticking, dots etc., in the options of MCQ Questions (SECTION - I) on the question paper is strictly prohibited. Do not write anything (Except Reg. No.) on the question paper.*

SECTION- I

I. *Select the most appropriate answer from options provided :* *10X 1= 10 Marks*

I-1) The discovery of C_4 pathway by

a) Melvin Calvin b) Andrew Benson

c) Hatch & Slack d) Robert hill

I-2) The net gain of ATP molecules during Aerobic Respiration is _____

a) 36 b) 08

c) 38 d) 40

I-3) The normal binding site of enzyme is

a) Allosteric site b) Active Site

c) Regulatory site d) Inhibitory site

I-4) TCT theory proposed by

a) Jolley & Dixon b) Sochs

c) Beehm d) J.C. Bose

Contd...2

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I-5) The absorption of moisture and water from the hydrophilic substance to increase in tae size is known as _____

a) Diffusion
b) Plasmolysis
c) Osmosis
d) Imbibition

I-6) The process of exudation of water in the form of water/droplets from hydathode is _____

a) Transpiration
b) Guttation
c) Deplamolysis
d) Osmosis

I-7) The process of conversion of Nitrates and Nitrites to gaseous nitrogen _____

a) Denitrification
b) Nitrification
c) Ammonification
d) All the above

I-8) The hormone that inhibits cell division and cell enlargement is _____

a) Auxin
b) Gibberlin
c) Cytokinin
d) Noscissic acid

I-9) The phenomenon of inducing flowring by cold treatment is _____

a) Photoperiodism
b) Chromotopism
c) Thermotropism
d) Vernalization

I-10) The movement of organs in response to the force of gravity is known as

a) Seisomonasty
b) Nastic movements
c) Geotropism
d) Spantaneous movements

SECTION- II

II. ***Answer/Write notes on any FIVE of the following.*** ***5X 3= 15 Marks***

II-1) What is Photoperiodism ? Explain its types.

II-2) Write a note on Antitranspirants.

II-3) Differentiate between cyclic and non cyclic photophorphorylation.

II-4) Mention any six properties of enzyme.

II-5) Write a brief account on secondary plant products.

II-6) Write the applications of Auxins.

Contd...3

II-7) List out the deficiency symptoms of Nitrogen.

II-8) Write a brief account on Anaerobic Respiration.

SECTION- III

III. ***Medium Answer questions.***

Answer any THREE questions of the following. ***3X 5= 15 Marks***

III-1) Explain vital theories on Ascent of Sap.

III-2) Differentiate between Photosystem – I and Photosystem – II.

III-3) Explain Mass – flow hypothesis.

III-4) Write the IUB system of enzyme classification.

III-5) What is glycolysis ? Write the schematic representation of glycolysis.

SECTION- IV

IV. ***Answer the following:*** ***2X 10= 20 Marks***

IV-1) With the help of schematic representation explain the mechanism of C_3 pathway.

OR

Explain the mechanism of water absorption and write the factors influence on rate of absorption.

IV-2) Write the detail account on classification and functions of Vitamins.

OR

Write a note on :

a) Plant movements

b) Significance of Transpiration

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