

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2021 ONLY)

21PBY206

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS: JULY -2022
M.Sc.-BOTANY **MAXIMUM MARKS: 70**
SEMESTER II **TIME : 3 HOURS**

PART - III

PLANT PHYSIOLOGY

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

1. When a bottle of perfume is placed at one corner of a room and the lid opened, the scent spreads all over the room after some time. This happens by the process of _____.
a) Plasmolysis b) Diffusion c) Transpiration d) Osmosis
2. Which group of elements is not essential for a normal plant?
a) Potassium, calcium, magnesium b) Iron, zinc, manganese boron
c) Lead, nickel, iodine, sodium d) Magnesium, iron, molybdenum
3. Nine-tenth of all the photosynthesis in the world is carried out by _____.
a) Chlorophyll containing ferns of the forests b) Herbs & Shrubs
c) Algae of the oceans d) Large trees with millions of branches
4. An indispensable role in energy metabolism is played by _____.
a) Phosphorus b) Lithium c) Sodium d) Calcium
5. Principal and naturally occurring auxin in higher plants is _____.
a) NAA b) MHI c) IAA d) 24D

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

(K2)

6. Define transpiration.
7. What are balancing elements?
8. Explain Emerson enhancement effect.
9. What is compensation Point?
10. Explain in brief crescograph.

SECTION – B

(5 X 4 = 20 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Explain translocation of solutes with special reference to Munch hypothesis.
(OR)
b) How will you differentiate between active and passive absorption?

(CONTD.....2)

12.a) Explain the deficiency symptoms of any five essential elements.

(OR)

b) Identify the role of Jasmonic acid.

13.a) Illustrate photosynthetic pigment system in higher plants.

(OR)

b) Differentiate cyclic and non-cyclic Photophosphorylation.

14.a) Write a short note on Glycolysis.

(OR)

b) Describe briefly GS/GOGAT pathway.

15.a) Describe the concept of photoperiodism.

(OR)

b) Explain the physiological role of Cytokinins.

SECTION - C

(4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS.

(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS

(FROM Qn. No : 17 to 21)

(K4 (Or) K5)

16. Biological nitrogen fixation is an important event in plant kingdom –Justify.

17. Write an essay on the stomata and their role in transpiration.

18. Examine the importance of macro and micro nutrients.

19. Examine the various steps of calvin cycle.

20. Explain electron transport chain?

21. Describe various morpho-physiological adaptations by plants to combat drought.
