

B. Sc. DEGREE EXAMINATION, APRIL 2023
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SIXTH SEMESTER

COURSE : MAJOR – CORE

PAPER : PLANT PHYSIOLOGY

TIME : 3 HOURS

MAX. MARKS: 100

SECTION A

Answer all the questions.

(18 MARKS)

I. Choose the correct answer:

(5 x 1 = 5)

1. Turgor pressure of a plant cell increases due to
a) End-osmosis b) Ex-osmosis c) wall pressure d) all of above
2. Magnesium is an important component of
a) Chlorophyll b) Phaeophytin c) Cytochrome d) all of above
3. End products of photosynthesis are
a) O₂ and hexose sugars b) O₂ and fat
c) O₂ and protein d) CO₂ and carbohydrate
4. Oxidative phosphorylation takes place
a) Mitochondrial matrix b) in thylakoid of granna
c) on cristae in mitochondria d) all of above
5. Fruit ripening hormone is
a) Ethylene b) Auxin c) Kinetin d) all of above

II. Fill in the blanks:

(5 x 1 = 5)

6. Osmotic pressure is higher in _____
7. Chlorosis of leaves due to nitrogen deficiency begins at first in _____.
8. Non-cyclic electron transport in photosynthesis is also known by the name of _____.
9. Glycolysis is also known as _____.
10. The gaseous phytohormone is _____

III. State Whether True or False:

(3 x 1 = 3)

11. Water potential value are always negative
12. Nitrogen fixing organisms are certain prokaryotic micro organisms
13. photosynthesis maintains equilibrium of the O₂ gas in atmosphere

IV. Match the following :

(5 x 1 = 5)

14. Dry seeds absorbed water and swellup due to - CAM plant
15. Calcium is an important constituents - Krebs cycle
16. Stomata opens at the night and closed during day - Imbibition
17. TCA cycle is also known as - Meristamatic region of the plant
18. Auxin is synthesized mainly in - Middle lamella

V. Answer any SIX of the following. Each answer should not exceed 50 words:

(6 x 3 = 18)

19. Plasmolysis
20. Symptoms of Zn and Mn deficiency
21. C4 plants
22. Cyanide resistant pathway
23. Vernalization
24. Photorespiration
25. Diffusion
26. Respiratory quotient
27. Pigment system

SECTION – B

Answer any FOUR of the following. Each answers not exceeding 200 words. (4 x 6 = 24)

28. Explain the role of ABA in stomata opening and closing
29. Evaluate the importance of phosphorous as plant nutrient and deficiency symptoms
30. Briefly describe about the importance of nitrogen in plant life
31. Write a note on oxidative phosphorylation
32. Describe the role of glycolysis and its importance in plant activities
33. What are the physiological roles of Gibberellins

SECTION – C

Answer any TWO of the following. Each answers not exceeding 1000 words.

(2 x 20 = 40)

34. Explain the types of transpiration and its significance
35. Describe Cyclic and Non-cyclic Photophosphorylation
36. Discuss in detail the Krebs cycle
37. Write an essay on Photoperiodism and its types
