

Dr. V. S. Krishna Govt. Degree College (A), Visakhapatnam

NAAC Reaccredited with A grade

II B. Sc Botany

IV Semester/ Botany Core Course – 4

Plant Physiology and Metabolism

Model paper

Max. Time: 3 Hrs.

Max. Marks: 75 M

Section A

Answer all the following questions

5 x 2 =

10 M

1. Osmotic potential
2. Active Absorption
3. Red drop.
4. Nitrogenase enzyme
5. Phytochrome

Section B

Answer three of the following questions. Draw a labelled diagram wherever necessary

3 x 5 =

15 M

6. Source-sink relationship
7. Mechanism of enzyme action,
8. CAM Cycle
9. Classification of Plant lipids
10. Brassinosteroids

Section – C

Answer any five of the following questions. Draw a labelled diagram wherever necessary 5 x 10 = 50 M

11. a) What is Ascent of sap? Discuss various theories that explain its mechanism?
or
b) What is transpiration? Describe the mechanism of stomatal movements?
12. a) Give an account of active Absorption of mineral ions?
or
b) Give an account of the reactions of Krebs Cycle (TCA Cycle)?
13. a) Explain the light phase of Photosynthesis?
or
b) Describe the C₃ Path way (Calvin Cycle)?
14. a) Write an essay on Biological Nitrogen fixation?
or
b) Explain β -oxidation of fatty acids?
15. a) Write an essay on Physiological effects of Auxins?
or
b) Write an essay on Photoperiodism?