

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2019
(Fourth Semester)

Branch-BOTANY

PLANT PHYSIOLOGY AND BIOCHEMISTRY

Time: Three Hours

Maximum: 75 Marks

SECTION -A (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5x6^30)

- 1 a Explain Photoperiodism with suitable example. Add a note on Phytochrome.
OR
b What is ascent of sap? Explain the cohesion theory.
- 2 a What are enzymes? Discuss various factors affecting enzyme activity.
OR
b Briefly discuss about the isolation and purification of enzymes.
- 3 a Assess on hexose monophosphate shunt.
OR
b Give an illustrative account on the electron transport system of oxidative phosphorylation.
- 4 a Explain the Hatch - Slack pathway of CO₂ fixation.
OR
b Give an account on the components of photosystems **I** and **II**.
- 5 a Analyse various sources of nitrogen available to plants.
OR
b Write a critical note on water stress and its physiological consequences in plants.

SECTION -B (45 Marks)

Answer any **THREE** questions

ALL questions carry **EQUAL** Marks (3 x 15 = 45)

- 6 Discuss the mechanism of absorption of water by plants.
- 7 Give a detailed account on the structure, properties and mechanism of enzyme action.
- 8 Explain the biochemical reactions of TCA cycle.
- 9 Write an essay on photorespiration in plants.
- 10 Write an elaborate note on the causes of seed dormancy and the methods of breaking dormancy.