

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023
(Fourth Semester)

Branch – BOTANY

PLANT PHYSIOLOGY & BIOCHEMISTRY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 The leaves turn and become yellow due to deficiency of
(i) Na (ii) K
(iii) Ca (iv) Fe
- 2 The coenzyme is
(i) Often a metal (ii) often a vitamin
(iii) an inorganic compound (iv) always a protein
- 3 Which of the following pigments are present in all photosynthetic plants?
(i) Chl a (ii) Chl a and b
(iii) Chl a and carotenoids (iv) Chl a, b and carotenoids
- 4 Which is the site of electron transport chain?
(i) Mitochondrion
(ii) Outer mitochondrial membrane
(iii) Inner mitochondrial membrane
(iv) Mitochondrial matrix
- 5 Which of the following is a natural germination inhibitor that induces dormancy?
(i) Auxin (ii) Cytokinin
(iii) ABA (iv) Gibberelin

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Explain the ascent of sap.
OR
b Describe about phytochrome.
- 7 a State the enzymes.
OR
b Discuss about allosteric enzymes.
- 8 a Evaluate pigment system I.
OR
b Determine the factors affecting photosynthesis.
- 9 a State the respiratory quotient.
OR
b Explain fermentation.
- 10 a Show the sources of nitrogen.
OR
b Determine seed dormancy.

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Sketch the process photoperiodism.
OR
b Analyze the stomatal movement.
- 12 a Evaluate the isolation and purification of enzymes.
OR
b Enumerate the properties of enzymes.
- 13 a Construct the Calvin cycle.
OR
b Analyze the factors affecting photosynthesis.
- 14 a Elucidate pentose phosphate pathway.
OR
b Describe about oxidative phosphorylation.
- 15 a Elucidate development of fruit.
OR
b Predict physiology of fruit ripening.

Z-Z-Z

END