

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2024
(Second Semester)

Branch - BOTANY

PLANT PHYSIOLOGY AND BIOCHEMISTRY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Transpiration was first discovered in plants by -----. (i) Hilmo (ii) Miller (iii) Letham (iv) Stephen Hales	K1	CO1
	2	----- is a proteinaceous plant pigment. (i) Chromophore (ii) Apoprotein (iii) Phytochrome (iv) Cytochrome	K2	CO1
2	3	The two pigment system theory of photosynthesis was proposed by-----. (i) Arnon (ii) Blackman (iii) Hill (iv) Emerson	K1	CO2
	4	The first acceptor of CO ₂ in C ₄ plants is -----. (i) Aspartic acid (ii) Malic acid (iii) Oxalo acetic acid (iv) Phosphoenol pyruvate	K2	CO2
3	5	The final acceptor of electrons in the electron transport chain is -----. (i) Water (ii) Cytochrome (iii) O ₂ (iv) H ₂	K1	CO3
	6	The TCA cycle occurs inside the -----. (i) Mitochondria (ii) Cytoplasm (iii) Nucleus (iv) Chloroplast	K2	CO3
4	7	Which of the following solutions will act as a buffer? (i) HNO ₂ and NaNO ₂ (ii) Hcl and Kcl (iii) HNO ₃ & NH ₄ NO ₃ (iv) NaoH and Nacl	K1	CO4
	8	Carbohydrate is stored in the body in the form of ----- -. (i) Cellulose (ii) Glycogen (iii) Chitin (iv) Inulin	K2	CO4
5	9	----- are catalysts for biochemical reactions in living cells. (i) Proteins (ii) Lipids (iii) Vitamins (iv) Enzymes	K1	CO5
	10	The non- protein component attached to a protein is called a -----. (i) Prosthetic group (ii) Apoenzyme (iii) Holoprotein (iv) Apoprotein	K2	CO5

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Simplify the mechanism of stomatal movement.	K3	CO1
	(OR)			
	11.b.	Find out the types of photoperiodism.		
2	12.a.	Differentiate cyclic and non-cyclic photophosphorylation.	K4	CO2
	(OR)			
	12.b.	Analyze the Hatch and Slack Pathway.		
3	13.a.	Examine on electron transport chain.	K4	CO3
	(OR)			
	13.b.	List out the factors affecting respiration.		
4	14.a.	Build the scope and importance of biochemistry in plants.	K3	CO4
	(OR)			
	14.b.	Construct properties of lipids.		
5	15.a.	Categorize the major classes of enzymes.	K4	CO5
	(OR)			
	15.b.	Survey about measurement of enzyme activity.		

SECTION - C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze the mechanism of Ascent of sap.	K4	CO1
2	17	Examine the pathway of C ₄ cycle.	K4	CO2
3	18	Evaluate the mechanism of TCA cycle.	K5	CO3
4	19	Simplify the structure, chemistry, properties and functions of carbohydrates.	K4	CO4
5	20	Organize the mechanism of enzyme kinetics.	K6	CO5

Z-Z-Z

END