

(AUTONOMOUS)
MSc DEGREE EXAMINATION MAY 2026

(Second Semester)

Branch- BIOCHEMISTRY

ADVANCED PLANT 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	Which is correct regarding photosynthesis? (a) Carbon dioxide is obtained from the atmosphere (b) Water is absorbed from the soil through the stem system (c) Sunlight is trapped by pigments called xanthophyll (d) Chlorophyll absorbs green light	K1	CO1
	2	Which of the following pigments acts as a reaction-centre during photosynthesis? (a) Cytochrome (b) P700 (c) Carotene (d) Phytochrome	K1	CO1
2	3	How many isoprene units, are there in sesquiterpenes? (a) 1 (b) 2 (c) 3 (d) 8	K2	CO2
	4	What are the secondary metabolites? (a) Compounds formed in all kinds of cells (b) Compounds formed only in plants (c) Compounds formed only in animals (d) By-products of the cell	K2	CO2
3	5	Which of the following is correct for nitrifying bacteria? (a) They convert free nitrogen to nitrogen compounds (b) They oxidize ammonia to nitrates (c) They reduce nitrates to free nitrogen (d) They convert proteins into ammonia	K3	CO3
	6	This element plays a key role in the nitrogen fixation. (a) Manganese (b) Molybdenum (c) Zinc (d) Copper	K3	CO3
4	7	Which of the given diseases is caused by nematodes in plants? (a) Wilts (b) Cavity spot (c) Scab (d) Root-knot	K4	CO4
	8	Which of the following diseases are caused by Bacteria in plants? (a) Soft rots (b) Hairy root (c) Tuber diseases (d) Root rots	K4	CO4
5	9	What is the size of plant mitochondrial DNA? (a) 16kb (b) 200-2500kb (c) 100- 2550kb (d) 100-2500kb	K5	CO5
	10	Which of the following type of plastids helps in pollination? (a) Leucoplasts (b) Chloroplasts (c) Chromoplasts (d) All of the above	K5	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.	Label the Structure and function of Chlorophyll.	K1	CO1
	(OR)			
	11.b.	Recall the mechanism of water absorption.		
2	12.a.	Outline the mode of actions and function of Polyamines, Brassino steroids.	K2	CO2
	(OR)			
	12.b.	Summarize the functions of Secondary Metabolites.		
3	13.a.	Construct Biochemistry of Nitrogen fixation.	K3	CO3
	(OR)			
	13.b.	Organize Root nodule formation in plants.		
4	14.a.	Categorize systemic acquired resistance in plants.	K4	CO2
	(OR)			
	14.b.	Inference effect of pathogen on photosynthesis.		
5	15.a.	Appraise the plant pathogen interaction.	K5	CO5
	(OR)			
	15.b.	Conclude the mechanism of Protein transport into plastids.		

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	Recall Hills reaction and its regulation.	K1	CO1
2	17	Illustrate Structure, Biosynthesis, Mode of action and function of Auxin, Gibberellins, Cytokinins.	K2	CO2
3	18	Explain about Symbiotic Nitrogen fixation in plants.	K3	CO3
4	19	Analyze Defense mechanism of plants.	K4	CO4
5	20	Evaluate Structure and function of Mitochondrial DNA in plants.	K5	CO5

Z-Z-Z

END