ANSWER KEY

Code No	FY 126

FIRST YEAR HIGHER SECONDARY EXAMINATION MARCH 2026

PART - III

SUBJECT: BOTANY

30 SCORES **1 HOUR**

Qn. No.	Sub Qn.	Answer Key / Value Points	Score	Total Score
		PART I 1 - 5 (Answer any 3 questions)	**3 x 1 = 3**	
1		Kingdom Fungi	1	1
2		(c) / Pteridophytes	1	1
3		Reticulate	1	1
4		Equational division / Resembles a normal mitosis / Mitosis	1	1
5		Apical meristem	1	1
		PART II 6 - 16 (Answer any 9 questions)	**9 x 2 = 18**	
6		Red tide - Rapid multiplication of dinoflagellates / Red dinoflagellates / Gonyaulax Effects - Release of toxin / Kill other marine animals.	1 1	2
7		Production of two types of spores / Production of megaspore or macrospore or large spore and microspore or small spore Eg: Selaginella, Salvinia	1 ½ + ½	2
8		Dicot Stem: * Conjoint open / Open / Cambium present; * A large number of vascular bundle are arranged in the form of ring; * Above the phloem in the form of semi-lunar patches of sclerenchyma Monocot Stem: * Conjoint closed / Closed / Cambium absent; * A large number of scattered vascular bundles; * Sclerenchymatous bundle sheath present; * Water containing cavity present (any two points from each)	½ x 4	2
9		Bulliform cells are large, empty, colourless cells found in upper epidermis (adaxial) of grasses.	1	2
		Helps in leaf folding / curling during water stress to minimise water loss.	1	
10	(a)	Chloroplast	½	2
	(b)	A - Granum, B - Stroma	½ + ½	
	(c)	70S	½	
11	(a)	Endoplasmic reticulum (ER), Golgi bodies, Vacuole	1½	2
	(b)	Lysosomes	½	

12	(a)	C3 plants	½	2
	(b)	Melvin Calvin / Calvin	½	
	(c)	RuBisCO / its expansion	½	
	(d)	RuBP / Ribulose 1,5 bis phosphate	½	
13	(a)	The ratio of volume of CO_2 evolved to the volume of O_2 consumed / RQ equation	1	2
	(b)	Carbohydrate, Fat (Tripalmitin), Protein, Organic acid (any two)	1	
14	(a)	NADH + H+ and FADH2	½ + ½	2
	(b)	NADH can produce 3 / 2.5 molecules of ATP FADH2 can produce 2 / 1.5 molecules of ATP	½ + ½	
15		**Plant hormone** / **Functions of the hormone** Auxin – Induction of parthenocarpy Gibberellin – Increase the length of stem in sugarcane Cytokinins – helps to overcome apical dominance Ethylene – Ripening of fruits	½ x 4	2
16		Plant possess meristematic tissues / new cells are added throughout the plants life (Open form of growth)	2	2
		PART III 17 - 20 (Answer any 3 questions)	**3 x 3 = 9**	
17	(a)	A - Epicarp, B - Mesocarp	½ + ½	3
	(b)	Mesocarp Mango - Fleshy / edible	½	
		Mesocarp cocunut - Fibrous	½	
	(c)	Drupe	½	
		It develops from monocarpellary superior ovaries and is one seeded	½	
18	(a)	A - G1 / Gap 1, B - S / Synthesis, C - G2 / Gap 2	½ x 3	3
	(b)	Male honey bees / social insects / lower plants	½	
	(c)	During S phase DNA synthesis or replication take place.	1	
19	(a)	'Kranz' anatomy	1	3
	(b)	Special leaf antomy / 'Kranz' anatomy present They tolerate high temperature They show a response to high light intensities They lack photorespiration They have greater productivity of biomass They are adapted to dry tropical regions They show saturation at low CO_2 concentration (any 4 points)	½ x 4	
20	(a)	A - Citric acid B - alpha keto glutaric acid C - Malic acid D - Oxalo acetic acid	½ x 4	3
	(b)	Hans Krebs / Krebs	½	
	(c)	α-keto glutaric acid to Succinic acid or Succinyl CoA to Succinic acid	½	

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