

Scheme

FIRST YEAR IMPROVEMENT / SUPPLEMENTARY EXAMINATION – OCTOBER 2022

PART-III BOTANY

Qn. No.	Sub divi.	QP. CODE: FY-826		TOTAL SCORE : 30	
		Answer key/Value points		Split Score	Total Score
I		Answer any 3 questions from 1 to 4.			
1		Bryophytes		1	1
2		(b) / Transpiration		1	1
3		Stroma		1	1
4		Pyruvic acid / Pyruvate		1	1
II		Answer any 9 questions from 5 to 17.			
5	a	Ethylene		1	2
	b	Ethylene breaks seed and bud dormancy, initiate germination, sprouting of potato, horizontal growth of seedlings, swelling of axis, apical hook formation, promotes senescence / abscission, fruit ripening, enhances respiration rate, respiratory climatic, internode elongation, petiole elongation, promote root growth / root hair, induce flowering in mango, induce female flowering in cucumber, Breaks seed dormancy (Any 1)		1	
6		Apoplast		1	2
		Symplast		1	
7	a	Palisade paranchyma		½	2
		Spongy paranchyma		½	
	b	Photosynthesis		1	
8	a	The incomplete oxidation of glucose /pyruvic acid in the absence of oxygen or under anaerobic condition		1	2
	b	lactic acid		1	
9		Stages of Mitosis	Events		2
		Prophase	Formation of mitotic chromosomes	½	
		Metaphase	Chromosomes are moved to spindle equator	½	
		Anaphase	Chromatids move to opposite poles	½	
		Telophase	Formation of two daughter nuclei at each pole	½	

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10	a	Mitochondria	1	2
	b	A- Matrix	½	
		B- Crista	½	
11		Heart wood : The hard durable and dead region seen at the centre of trees /The region comprises dead elements with highly lignified walls / hard central or innermost layers of stem / It has deposition of organic compounds like tannins, resins etc./ It is dark brown in colour / it does not conduct water / it is resistant to the attack of micro organism and insects. (Any 1 point)	1	2
		Sap wood : The peripheral region of secondary xylem / light coloured secondary xylem / it is involved in the conduction of water and minerals (Any 1 point)	1	
12	a	Process of association or pairing of chromosomes	1	2
	b	zygotene	1	
13		Cyclic Photophosphorylation		2
		(ii) / Splitting of water absent	½	
		(iv) / ATP alone is synthesized	½	
		Non-Cyclic Photophosphorylation		
		(i) / Splitting of water takes place	½	
		(iii) / Both ATP and NADPH are synthesized	½	
14		Endoplasmic reticulum / ER, Golgi complex, Lysosomes, Vacuoles	½x4	2
15	a	Arrangement of veins and veinlets in the lamina of leaf	1	2
	b	Reticulate venation	½	
		Parallel venation	½	
16		A- Chlorophyceae	½	2
		B- Starch	½	
		C- Brown algae	½	
		D- Floridean Starch	½	

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17		Coccus – spherical	½	2
		Bacillus – rod-shaped	½	
		Vibrium – comma-shaped	½	
		Spirillum – spiral	½	
III		Answer any 3 questions from 18 to 22.		
18	a	Arrangement of ovules within the ovary	1	3
	b	A- Axile	½	
		B- Parietal	½	
		C- Marginal	½	
		D- Basal	½	
19		The element must be absolutely necessary for normal growth and reproduction / In the absence of the element the plants do not complete their life cycle or set seeds	1	3
		The requirement of the element must be specific and not replaceable by another element / Deficiency of any one element cannot be met by supplying some other element.	1	
		The element must be directly involved in the metabolism of the plant	1	
20	a	Krebs' cycle / Citric acid cycle / Tricarboxylic acid cycle / TCA cycle	1	3
	b	A- Citric acid	½	
		B- Succinic acid	½	
		C- Malic acid	½	
		D- Oxaloacetic acid	½	
21	a	Kranz anatomy	1	3
	b	Photorespiration is absent / greater productivity of biomass / they can tolerate higher temperature /they show responds to high light intensities (Any 2 points)	1+1	

Scheme

22	a	Sigmoid growth curve / S-curve / Geometrical growth curve	1	3
	b	A- Exponential phase / log phase	1	
		B- Stationary phase	1	

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