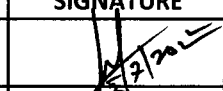


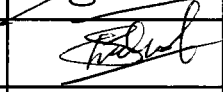
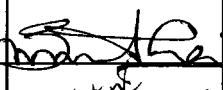
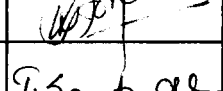
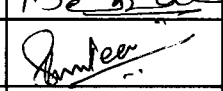
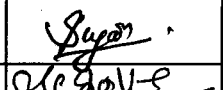
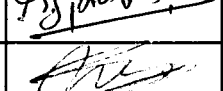
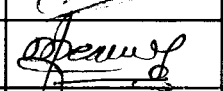
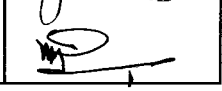




**FIRST YEAR HIGHER SECONDARY EXAMINATION-JUNE 2022**

**PART- III BOTANY**

QP.CODE: FY- 26		Total Score : 30	
Qn.No.	Answer key/Value points	Split score	Total Score
<b>PART- I Qns. 1 - 4 (Any 3, Each carries 1 score)</b>			
1	Osmosis	1	1
2	Mannitol	1	1
3	Stroma	1	1
4	Glycolysis / EMP Pathway	1	1
<b>PART- II Qns. 5 - 17 (Any 9, Each carries 2 scores)</b>			
5	(a). Phospho Enol Pyruvic Acid / PEP	1	2
	(b). Oxalo Acetic Acid / OAA	1	
6	Mycorrhiza is a Symbiotic association of a Fungus with roots of plants	1	2
	Fungal filament forms network around root.Fungal hyphae absorb or provides water & minerals /helps in absorption /It helps to germinate and establish Pinus seeds <b>(Any one)</b>	1	
7	Long day Plants : Plants which require exposure to light for a period exceeding a well defined critical duration to initiate flowering.	1	2
	Short day Plants : Plants in which flowering is initiated when exposed to light for a period less than critical duration.	1	
8	a)Bryophytes - Protonema / (a) - (ii)	½	2
	b)Pteridophytes - Prothallus / (b) - (iii)	½	
	c)Gymnosperms - Naked seeded / (c) - (iv)	½	
	d)Angiosperms - Double fertilization / (d) - (i)	½	
9	Xylem vessels,Xylem tracheids, Xylem parenchyma, Xylem fibre	4 x ½	2
10	(a)Zygotene - Formation of Synapsis	½	2
	(b)Pachytene - Crossing over	½	
	(c)Diplotene - Dissolution of synaptonemal complex	½	
	(d)Diakinesis - Terminalisation of chiasma	½	

11	Helpful in making curd from milk , Production of antibiotics, Fixing Nitrogen in legume roots, Recycling of nutrients, Production of biogas, Nitrogen fixation, Decomposition. <b>(Any two points)</b>	<b>2 x 1</b>	<b>2</b>		
12	The ratio of volume of Carbon Dioxide evolved to the volume of Oxygen consumed in respiration is Respiratory Quotient (RQ). OR RQ = Volume of CO <sub>2</sub> evolved/Volume of O <sub>2</sub> consumed.	<b>1</b>	<b>2</b>		
	RQ of Carbohydrate is 1	<b>1</b>			
13	Prophase, Metaphase, Anaphase and Telophase	<b>4 x ½</b>	<b>2</b>		
14	(a) A-Matrix/Cristae B- Cristae/Matrix	<b>1</b>	<b>2</b>		
	(b) Mitochondria produce cellular energy in the form of ATP hence called Power house of cell.	<b>1</b>			
15	Conjoint Vascular bundle- Xylem and Phloem jointly situated along the same radius of vascular bundle / Diagram of the bundle	<b>1</b>	<b>2</b>		
	Radial Vascular bundle- Xylem and Phloem within a vascular bundle are arranged in an alternate manner along different radii. / Diagram of the bundle.	<b>1</b>			
16	Racemose inflorescence -main axis continuous to grow.Flowers are borne laterally in acropetal succession	<b>1 + 1</b>	<b>2</b>		
17	Gives shape to the cell, protect cell from mechanical damage and infection, helps in cell to cell interaction, Provides barrier to undesirable macromolecules <b>(Any two points)</b>	<b>1 + 1</b>	<b>2</b>		
<b>PART-III Qns. 18 - 22 (Any 3, Each carries 3 scores)</b>					
18	Auxin : Apical dominance, Parthenocarpy in Tomatoes, initiate root in stem cuttings	<b>1½</b>	<b>3</b>		
	Gibberellin : Bolting in rosette plants, Increase length of grape stalks, speed up malting process in brewing industry	<b>1½</b>			
19	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <u>Cyclic Photophosphorylation</u>            PS-I only involved /            P 700 only            No splitting of water            No evolution of Oxygen            Only ATP formed            Cyclic flow of electrons         </td> <td style="width: 50%; padding: 5px;"> <u>Non-Cyclic Photophosphorylation</u>            PS-I and PS-II involved /            P 680 and P 700            splitting of water            evolution of Oxygen            ATP and NADPH are formed            Non cyclic flow of electrons/            Z-scheme         </td> </tr> </table>	<u>Cyclic Photophosphorylation</u> PS-I only involved / P 700 only No splitting of water No evolution of Oxygen Only ATP formed Cyclic flow of electrons	<u>Non-Cyclic Photophosphorylation</u> PS-I and PS-II involved / P 680 and P 700 splitting of water evolution of Oxygen ATP and NADPH are formed Non cyclic flow of electrons/ Z-scheme	<b>6 x ½</b>	<b>3</b>
	<u>Cyclic Photophosphorylation</u> PS-I only involved / P 700 only No splitting of water No evolution of Oxygen Only ATP formed Cyclic flow of electrons	<u>Non-Cyclic Photophosphorylation</u> PS-I and PS-II involved / P 680 and P 700 splitting of water evolution of Oxygen ATP and NADPH are formed Non cyclic flow of electrons/ Z-scheme			
<b>(Any 3 points from each column)</b>					
OR Schematic representation of each carries 1½ score					
20	The technique of growing plants in nutrient solution/in absence of soil is known as hydroponics.	<b>1</b>	<b>3</b>		
	Essential elements were identified, deficiency symptoms of elements can be discovered, Technique for commercial production of vegetables. <b>(Any two points)</b>	<b>2</b>			

21	Supporting Roots :- Prop root: eg., Banyan tree Stilt root : eg., Maize/Sugarcane	3 x 1	3
	Respiratory roots:- Pneumatophore : eg., Rhizophora Storage of Food:- Carrot/Turnip/Sweet potato <b>(Any 3 types with 1 example each)</b>		
22	(a) A - Citric Acid , B - Succinic Acid	1	3
	(b) Hans Krebs	1	
	(c) Mitochondrial matrix/ Mitochondria	1	
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