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
	PART- I Qns. 1 - 4 (Any 3, Each carries 1 score)		
1	Osmosis	1	1
2	Mannitol	1	1
3	Stroma	1	1
4	Glycolysis / EMP Pathway	1	1
	PART- II Qns. 5 - 17 (Any 9, Each carries 2 scores)		
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 **(Any one)**	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	

<table>
<tr><td>11</td><td>Helpful in making curd from milk , Production of antibiotics, Fixing Nitrogen in legume roots, Recycling of nutrients, Production of biogas, Nitrogen fixation, Decomposition. (Any two points)</td><td>2 x 1</td><td>2</td></tr>
<tr><td rowspan="2">12</td><td>The ratio of volume of Carbon Dioxide evolved to the volume of Oxygen consumed in respiration is Respiratory Quotient (RQ).
OR
RQ = Volume of CO2 evolved/Volume of O2 consumed.</td><td>1</td><td rowspan="2">2</td></tr>
<tr><td>RQ of Carbohydrate is 1</td><td>1</td></tr>
<tr><td>13</td><td>Prophase, Metaphase, Anaphase and Telophase</td><td>4 x ½</td><td>2</td></tr>
<tr><td rowspan="2">14</td><td>(a) A-Matrix/Cristae B- Cristae/Matrix</td><td>1</td><td rowspan="2">2</td></tr>
<tr><td>(b) Mitochondria produce cellular energy in the form of ATP hence called Power house of cell.</td><td>1</td></tr>
<tr><td rowspan="2">15</td><td>Conjoint Vascular bundle- Xylem and Phloem jointly situated along the same radius of vascular bundle / Diagram of the bundle</td><td>1</td><td rowspan="2">2</td></tr>
<tr><td>Radial Vascular bundle- Xylem and Phloem within a vascular bundle are arranged in an alternate manner along different radii. / Diagram of the bundle.</td><td>1</td></tr>
<tr><td>16</td><td>Racemose inflorencence -main axis continous to grow.Flowers are borne laterally in acropetal succession</td><td>1 + 1</td><td>2</td></tr>
<tr><td>17</td><td>Gives shape to the cell, protect cell from mechanical damage and infection, helps in cell to cell interaction, Provides barrier to undesirable macromolecules (Any two points)</td><td>1 + 1</td><td>2</td></tr>
<tr><td></td><td colspan="2">PART-III Qns. 18 - 22 (Any 3, Each carries 3 scores)</td><td></td></tr>
<tr><td rowspan="2">18</td><td>Auxin : Apical dominance, Parthenocarpy in Tomatoes, initiate root in stem cuttings</td><td>1½</td><td rowspan="2">3</td></tr>
<tr><td>Gibberellin : Bolting in rosette plants, Increase length of grape stalks, speed up malting process in brewing industry</td><td>1½</td></tr>
<tr><td rowspan="3">19</td><td><table><tr><td><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><u>Non-Cyclic Photophosphorylation</u>
PS-I and PS-II involved /
P680 and P 700
splitting of water
evolution of Oxygen
ATP and NADPH are formed
Non cyclic flow of electrons/
Z-scheme</td></tr></table></td><td>6 x ½</td><td rowspan="3">3</td></tr>
<tr><td colspan="2">(Any 3 points from each column)</td></tr>
<tr><td colspan="3">OR Schematic representation of each carries 1½ score</td></tr>
<tr><td rowspan="2">20</td><td>The technique of growing plants in nutrient solution/in absence of soil is known as hydroponics.</td><td>1</td><td rowspan="2">3</td></tr>
<tr><td>Essential elements were identified, deficiency symptoms of elements can be discovered, Technique for commercial production of vegetables.
(Any two points)</td><td>2</td></tr>
</table>

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

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