

FIRST YEAR HIGHER SECONDARY EXAMINATION MARCH 2019  
FINALIZED SCHEME OF VALUATION

1  
3

Subject - Biology - Part A Botany

Code No. FY 26

Qn.No	SUB QTN	Scoring Indicators	Split Score	Total Score
1		d) Mesosome	1	1
2		b) Rhizopus / Mucor	1	1
3		Cleavage furrow/Furrow/ Constriction/invagination/infold	1	1
4		Osmosis/Diffusion of water across the membrane Functions - active transport and passive transport, semi or selectively permeable membrane, Movement of water from high to low concentration, Facilitated diffusion Any one similar correct point - 1 score	1 1	2
5		Chlorophyll b, Xanthophyll and Carotene (Any two other than Chl a) Significance of accessory pigments 1. Absorption and transfer of light to the reaction centre / Chl a 2. Protect the chlorophyll a from photo oxidation Any one of above response 1 score	1 1	2
6		c. Collenchyma Function - Mechanical support, Photosynthesis, strength and flexibility [Any one response - 1 score]	1 1	2
7		Aerobic respiration - with oxygen, in cytoplasm and mitochondria, complete oxidation, high energy output, end products $CO_2$ and water/38 or 36 ATP Anaerobic respiration - without oxygen, in cytoplasm only, incomplete oxidation, low energy output, end products lactic acid or ethanol and $CO_2$ , 2 ATP, Hazardous (Similar relevant two points each 1+1) Summarised equation of aerobic and anaerobic respiration full score 2	1/2+ 1/2 1/2+1/2	2
8		A. Sporophyte / Capsule/seta and capsule/ Diploid or 2n part Peculiarities 1. Diploid (2n) structure 2. Produces haploid (n) spores 3. reproductive structure with foot, seta and capsule 4. attached to gametophyte 5. Derive food from gametophyte 6. Not free living (Similar relevant and correct one peculiarity - 1 score)	1 1	2
9		2nd - Metaphase 3rd - Anaphase Features of metaphase 1. Metaphase plate 2. All chromosomes at equator 3. Chromosomes at maximum condensation 4. Spindle fibres attached to kinetochores (Similar relevant and correct two points of metaphase (1/2+1/2) ) Diagrammatic representation with label of metaphase - 1 score	1/2 1/2 1/2 1/2	2

10	<p>a Grana/Thylakoid b Stroma</p> <p>Grana function - Light reaction / Photophosphorylation / Explanation of Light reaction / similar correct one response Stroma function - Dark reaction / Biosynthetic phase/ Carbon fixation/ Explanation of Dark reaction/ C3 Cycle/ Black man's reaction/ function of any part of chloroplast except grana / similar correct one response. <b>If a or b correct give full score 2</b></p>	<p>1/2 1/2 1/2 1/2</p>	2
11	<p>Kranz anatomy/Wreath anatomy peculiarities of kranz anatomy</p> <ol style="list-style-type: none"> <li>1. two types chloroplast</li> <li>2. Bundle sheath chloroplast large and agranal</li> <li>3. Mesophyll chloroplast normal (granal)</li> <li>4. Wreath like arrangement of dimorphic chlorotic cells</li> <li>5. Closely packed bundle sheath cells</li> <li>6. Thick walled bundle sheath cells impervious to gas exchange</li> <li>7. Wreath like bundle sheath</li> </ol> <p>(Similar 2 correct peculiarities give 1 score)</p>	<p>1 1/2 1/2</p>	2
12	<p>Complex V/ ATP Synthase/ Oxysome/ F1-F0 particle Function - ATP synthesis <math>ADP+Pi = ATP</math>/Oxidative phosphorylation/ Phosphorylation/ Chemi osmosis/ Proton channel/ Similar correct one function give 1 score</p>	<p>1 1</p>	2
13	<p>Copper, Boron, Manganese and Chlorine</p>	<p>4x1/2</p>	2
14	<ol style="list-style-type: none"> <li>a. Reduction - iv/ Formation of Glucose</li> <li>b. Photoiysis - i/ Formation of ooxxygen</li> <li>c. Photorespiration - ii/ Formation of phosphoglycolate/ v./ Formation of 3 PGA</li> <li>d. Carboxylation - ii/ Formation of 3 PGA</li> </ol> <p><b>Any two correct answers 2 scores</b></p>	<p>1/2 1/2 1/2 1/2</p>	2
15	<p>Solanaceae Gynoecium - Bicarpellay, hypogynous, axile placentation, Bilocular, Syncarpous, Superior ovary, Oblique carpels, Swollén placenta, Many ovules, G(2) (Similar correct three points 1 1/2 scores)</p> <p>Fabaceae Gynoeciũm - Monocarpellary, hypogynous/Perigynous, Marginal placentation, Many ovules, Unilocular, Half inferior and Half superior, G1, G1- (Similar correct three points 1 1/2 scores)</p>	<p>1 1/2 1 1/2</p>	3
16	<ol style="list-style-type: none"> <li>a Apical dominance -Auxin</li> <li>Bolting - Gibberellin</li> <li>Apical dominance - Promotion of apical bud by suppressing lateral bud</li> <li>Bolting- Rapid stem elongation just prior to flowering in rosette plants</li> <li>b ABA / Abscisic acid</li> </ol>	<p>1/2 1/2 1/2 1/2 1</p>	3

17	Rhizopora - pneumatophore/Respiratory root/Breathing root/Root Function - Respiration Bougainvillea - Thorn/Stem/Bud Function - Defense, Mechanical support, Protection Pea - Leaf tendril/Leaf/Tendril Function - Mechanical support, Climbing organ	1/2 1/2 1/2 1/2 1/2 1/2	3
18	Root hair - Absorption of water and minerals Stomata - Transpiration/Respiration/Photosynthesis/gaseous exchange. Bulliform cells - Rolling and unrolling of leaves to reduce surface area, When turgid they expose leaf surface and when flaccid curls.	1 1 1	3
	<b>TOTAL SCORE</b>	<b>37</b>	<b>37</b>

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