

FIRST YEAR HIGHER SECONDARY SECOND TERM EXAMINATION , DECEMBER 2025

Part – III

BIOLOGY

PART – A BOTANY

KEY

Maximum score: 30

Q.No		Split score	Total score
1	Epipetalous.	1	1
2	Slime moulds. Slime moulds are saprophytic and others are generally photosynthetic. (Any other relevant answer)	1	1
3	Metaphase.	1	1
4	Conjunctive tissue.	1	1
5	Svedberg's Unit/ sedimentation coefficient.	1	1
6	a)Salvinia. b)The female gametophytes in these plants are retained on the parent sporophytes for variable periods. The development of the zygotes into young embryos take place within the female gametophytes.	1 1	2
7	(a) Phyllotaxy. (b) A- alternate, B- Opposite, C- Whorled	$\frac{1}{2}$ 1 $\frac{1}{2}$	2
8	(a) Chlorophyll a. (b) Accessory pigments absorb light and transfer the energy to chlorophyll a. /They enable a wider range of wavelength of incoming light to be utilised for photosynthesis / Protect chlorophyll a from photo-oxidation.(Any 2)	1 $\frac{1}{2}$ $\frac{1}{2}$	2
9	a) A- Monocot stem. B-Dicot stem. b) A- Vascular bundles are conjoint/ closed. /Peripheral vascular bundles are generally smaller than the centrally located ones. /The phloem parenchyma is absent. /Water-containing cavities within the vascular bundles. (Any 1) B-A large number of vascular bundles are arranged in a ring/ Each vascular bundle is conjoint /open /endarch protoxylem. (Any 1)	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
10	The epidermal hairs in the shoot system are called trichomes. Help in preventing water loss due to transpiration.	1 1	2
11	Endoplasmic reticulum (ER), golgi complex, lysosomes and vacuoles.	4x $\frac{1}{2}$	2
12	(a) Valvate (b) Twisted (c) Imbricate (d) Vexillary.	4x $\frac{1}{2}$	2

13	<p>In plant cells, wall formation starts in the centre of the cell and grows outward to meet the existing lateral walls.</p> <p>The formation of the new cell wall begins with the formation of cell-plate , the middle lamella between the walls of two adjacent cells.</p> <p>In an animal cell, this is achieved by the appearance of a furrow in the plasma membrane.</p> <p>The furrow gradually deepens and ultimately joins in the centre dividing the cell cytoplasm into two.</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2												
14	<p>A-Cellulose.</p> <p>B-Cellulose and algin.</p> <p>C-2.</p> <p>D-Absent.</p>	4 x $\frac{1}{2}$	2												
15	<p>Bulliform cell.</p> <p>When the bulliform cells absorb water and are turgid, the leaf surface is exposed. When flaccid ,the leaves curl inwards to minimise water loss.</p>	1 1	2												
16	<p>The arrangement of ovules within the ovary.</p> <p>Marginal/ axile/parietal/ basal/central / free central. (Any 2)</p>	1 $\frac{1}{2} + \frac{1}{2}$	2												
17	<p>a) Cyclic photophosphorylation.</p> <p>b) Stroma lamella.</p> <p>c) Photosystem I / PS I/ P700.</p>	1 1 1	3												
18	<table border="1"> <thead> <tr> <th>Class</th><th>Sexual reproductive spore</th><th>Asexual reproductive spore</th><th>Examples</th></tr> </thead> <tbody> <tr> <td>Phycomycetes</td><td>Zygospore</td><td>Aplanospores</td><td>Mucor,Albugo, Rhizopus.</td></tr> <tr> <td>Ascomycetes</td><td>Ascospore</td><td>Conidia</td><td>Aspergillus, Claviceps.</td></tr> </tbody> </table>	Class	Sexual reproductive spore	Asexual reproductive spore	Examples	Phycomycetes	Zygospore	Aplanospores	Mucor,Albugo, Rhizopus.	Ascomycetes	Ascospore	Conidia	Aspergillus, Claviceps.	$\frac{1}{2}$ x6	3
Class	Sexual reproductive spore	Asexual reproductive spore	Examples												
Phycomycetes	Zygospore	Aplanospores	Mucor,Albugo, Rhizopus.												
Ascomycetes	Ascospore	Conidia	Aspergillus, Claviceps.												

19	a) Chloroplast. b) A-Stroma. B-Thylakoid. c) A- Stroma contains enzymes required for the synthesis of carbohydrates and proteins./ Dark reaction./ (Any relevant 1 point). B- Trapping the light energy for the synthesis of ATP and NADPH./light reaction.(Any relevant 1 point).	1 $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$	3
20	a) Pachytene. b) Diakinesis. c) Zygotene.	1 1 1	3

Key by: Sudheesh Kumar N, GHSS MCC KKD.

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