

FIRST YEAR HIGHER SECONDARY PRE MODEL EXAMINATION

Part – III

BIOLOGY

PART – A BOTANY

KEY

FYCBTA22/2

Maximum score: 30

Q.No.	PART-I	Split score	Total score																				
1	Red algae	1	1																				
2	<i>Gemmae</i>	1	1																				
3	(c) <i>Sphagnum</i>	1	1																				
4	Pistil/Carpel	1	1																				
5	dicotyledons and the monocotyledons	1	1																				
6	(b) <i>Bryophytes and pteridophytes</i>	1	1																				
7	Primary endosperm nucleus	1	1																				
8	Chlorella	1	1																				
9	Bryophytes	1	1																				
10	(b) <i>Pteridophytes</i>	1	1																				
PART-II																							
11	Cytotaxonomy - is based on cytological information like chromosome number, structure, behaviour. Chemotaxonomy - uses the chemical constituents of the plant to resolve confusions.	1 1	2																				
12	Needle-like leaves Thick cuticle Sunken stomata [Any 2]	1 1	2																				
13	<i>Psilopsida, Lycopsida, Sphenopsida, Pteropsida</i>	½ x4	2																				
14	a) <i>Gelidium / Gracilaria</i> b) Used to grow microbes / in preparations of ice-creams and jellies.	1 1	2																				
15	Bryophytes. They are called amphibians of the plant kingdom because these plants can live in soil but are dependent on water for sexual reproduction.	1 1	2																				
16	They decompose rocks making the substrate suitable for the growth of higher plants. Since mosses form dense mats on the soil, they reduce the impact of falling rain and prevent soil erosion.	1 1	2																				
17	(i) The first gametophytic stage of Mosses, which develops from a spore. It is a creeping, green, branched and frequently filamentous stage. (ii) Small, free-living, photosynthetic thalloid gametophyte of Pteridophytes.	1 1	2																				
18.	a) Numerical Taxonomy is carried out using computers. b) It is based on all observable characteristics. /Number and codes are assigned to all the characters and the data are then processed. /Each character is given equal importance and at the same time hundreds of characters can be considered. [Any 1]	1 1	2																				
19.	<table border="1"> <thead> <tr> <th></th> <th align="center">A</th> <th></th> <th align="center">B</th> </tr> </thead> <tbody> <tr> <td align="center">(a)</td> <td><i>Sequoia</i></td> <td align="center">3</td> <td>Giant red wood Tree</td> </tr> <tr> <td align="center">(b)</td> <td><i>Wolffia</i></td> <td align="center">4</td> <td>Smallest angiosperm</td> </tr> <tr> <td align="center">(c)</td> <td><i>Algin</i></td> <td align="center">2</td> <td>Brown algae</td> </tr> <tr> <td align="center">(d)</td> <td><i>Carrageen</i></td> <td align="center">1</td> <td>Red algae</td> </tr> </tbody> </table>		A		B	(a)	<i>Sequoia</i>	3	Giant red wood Tree	(b)	<i>Wolffia</i>	4	Smallest angiosperm	(c)	<i>Algin</i>	2	Brown algae	(d)	<i>Carrageen</i>	1	Red algae	½ ½ ½ ½	2
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20.	a) Gymnosperms b) Pteridophytes	1 1	2																				

21	<p>a) Artificial classification system- based mainly on vegetative characters or on the androecium structure (system given by Linnaeus) / they were based on a few characteristics/They gave equal weightage to vegetative and sexual characteristics [Any 2]</p> <p>b) Natural classification systems-based on natural affinities among the organisms /consider, external features, internal features, like ultrastructure, anatomy, embryology and phytochemistry. /system by George Bentham and Joseph Dalton Hooker.[Any 2]</p> <p>c) Phylogenetic classification systems- based on evolutionary relationships between the various organisms/This assumes that organisms belonging to the same taxa have a common ancestor.[Any 2]</p>	<p>1</p> <p>1</p> <p>1</p>	3
22	(a) Green algae (b) Starch (c) Phaeophyceae (d) Rhodophyceae (e) Red algae (f) Floridean starch	$\frac{1}{2} \times 6$	3
23	(a) Heterospory (b) Selaginella, Salvinia (c) Precursor of seed habit	<p>1</p> <p>$\frac{1}{2} + \frac{1}{2}$</p> <p>1</p>	3
24	<p>Isogamous-Fusion of two gametes can be flagellated and similar in size or non-flagellated but similar in size.</p> <p>Anisogamous-Fusion of two gametes dissimilar in size.</p> <p>Oogamous-Fusion between one large, nonmotile female gamete and a smaller, motile male gamete.</p>	<p>1</p> <p>1</p> <p>1</p>	3
25	<p>(a) One of the male gametes fuses with the egg cell to form a zygote called syngamy.</p> <p>(b) The other male gamete fuses with the diploid secondary nucleus to produce the triploid primary endosperm nucleus (PEN), called triple fusion. -Because of the occurrence of two fusions i.e., syngamy and triple fusion, this event is termed as double fertilisation.</p> <p>(b) Zygote and PEN.</p>	<p>1</p> <p>1</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>	3

