

Scoring Key				
Q. No.		Scoring Indicators	Split Score	Total Score
1		B. Prothallus	1	1
2		Trichomes	1	1
3		a- Casparian strip b- Xylem <ul style="list-style-type: none"> <li>Water molecules are unable to penetrate the endodermis due to the presence of band of suberised matrix named Casparian strip.</li> </ul>	$\frac{1}{2}$ $\frac{1}{2}$ 1	2
4	a	Chlorophyceae	$\frac{1}{2}$	2
	b	Brown algae	$\frac{1}{2}$	
	c	Laminarin/Mannitol	$\frac{1}{2}$	
	d	Floridean starch	$\frac{1}{2}$	
5		<ul style="list-style-type: none"> <li>Cell structure</li> <li>Thallus organisation</li> <li>Mode of nutrition</li> <li>Mode of reproduction</li> <li>Phylogenetic relationship (Any 4)/ Can give full credit for writing 4 characters given in first column of table 2.1</li> </ul>	$\frac{1}{2} \times 4 = 2$	2
6		Anaphase  Features: 1. Centromere splits and chromatids separate 2. Chromatids move to opposite poles	1  $\frac{1}{2}$ $\frac{1}{2}$	2
7		Dicot stem <ul style="list-style-type: none"> <li>Presence of trichomes</li> <li>Heterogenous cortex/cortex consists of 3 sub-zones</li> <li>Endodermis is rich in starch grains/ Endodermis is also referred to as starch sheath.</li> <li>Sclerenchymatous pericycle above vascular bundles/ Pericycle is present above the phloem in the form of semi lunar patches of sclerenchyma</li> <li>Conjoint open vascular bundles</li> <li>Vascular bundles are arranged in a ring</li> <li>Parenchymatous pith</li> <li>Endarch xylem (Any 3)</li> </ul>	$\frac{1}{2}$  $\frac{1}{2} \times 3 = 1\frac{1}{2}$	2

8		RER: ER with ribosomes SER: ER without ribosomes RER- Protein synthesis SER- Synthesis of lipids/in animal cells lipid like steroidal hormones are synthesised	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
9		a- ii b- i c – iv d- v	$\frac{1}{2} \times 4 = 2$	2
10		<ul style="list-style-type: none"> <li>Heterospory</li> <li>Precursor to seed habit/retention of female gametophytes on the sporophyte for variable periods/development of zygote into young embryos occurs within the female gametophyte.(Any one response)</li> </ul>	1  1	2
11		a - S phase/Synthetic phase b - G <sub>2</sub> phase/Gap 2 phase c - cells are metabolically active but not dividing	$\frac{1}{2}$ $\frac{1}{2}$ 1	2
12		Golgi apparatus Functions: <ul style="list-style-type: none"> <li>Packaging of materials</li> <li>Formation of glycoproteins and glycolipids</li> <li>modification of proteins from ribosomes/ER (any two)</li> </ul>	1  $\frac{1}{2} \times 2 = 1$	2
13.	a.	Family: Solanaceae	1	3
	b.	Features: <ul style="list-style-type: none"> <li>Bicarpellary</li> <li>Syncarpous</li> <li>Superior ovary</li> <li>bilocular</li> <li>swollen placenta with many ovules</li> </ul> (Any three) <ul style="list-style-type: none"> <li><u>Example:</u> <i>Solanum</i>/chilli/potato/tomato/brinjal/tobacco/<i>Petunia</i>/belladonna/ashwagandha (Any one) / any other plant belonging to the family.</li> </ul>	$\frac{1}{2} \times 3 = 1\frac{1}{2}$  $\frac{1}{2}$	

14	a	<p>Criteria:</p> <ul style="list-style-type: none"> <li>• The element must be absolutely necessary for supporting normal growth and reproduction. In the absence of the element the plants do not complete their life cycle or set the seeds</li> <li>• The requirement of the element must be specific and not replaceable by another element. / explanation</li> <li>• The element must be directly involved in the metabolism of the plant (Any two)</li> </ul>	$1 \times 2 = 2$	3
	b	hydroponics	1	
15.	a- epidermis b-cortex c-xylem d-phloem	<p>Vascular bundle:</p> <ul style="list-style-type: none"> <li>• Radial</li> <li>• usually two to four xylem and phloem</li> <li>• xylem exarch (any two)</li> </ul>	$\frac{1}{2} \times 4 = 2$	3
			$\frac{1}{2} \times 2 = 1$	
16.	a- Half superior /half inferior ovary - Perigynous	1	3	
	b- Inferior ovary - epigynous	1		
	c- Superior ovary - hypogynous	1		
17	<ul style="list-style-type: none"> <li>• Cambium present between xylem and phloem is called intrafascicular cambium</li> <li>• formation of interfascicular cambium from medullary rays</li> <li>• Fusion of intra and interfascicular cambium to form cambial ring.</li> <li>• Cambial ring produces secondary xylem towards inside and secondary phloem towards outside</li> <li>• Cambial ring produces more secondary xylem than secondary phloem</li> <li>• Cambial ring also produces secondary medullary rays</li> </ul>	$\frac{1}{2} \times 6 = 3$	3	