



School: School of Science

Program/s: BSc

Year 2nd Semester: 3rd

Examination: End Semester Examination

Examination year: December - 2022

Course Code: LS274

Course Name: Plant Morphology and Anatomy

Date: 06/12/2022

Time: 11:30 am to 1:30 pm





Total Marks: 40

Total Pages: 2

Instructions:

- Write each answer on a new page
- Draw neat and well-labelled diagrams wherever required
- * COs=Course Outcome mapping, # BTL=Bloom's Taxonomy Level mapping

Q. No.	Details	Marks	COs*	BTL*														
Q.1	<p>Q1 A. Match the following statements with the appropriate answer (7M) (Write answers as 1-a, 2-b etc)</p> <table border="1"> <tr> <td>1. Thickened, prostrate, underground stem having distinct nodes and internodes, scaly leaves at the nodes, axillary and terminal buds present</td> <td>a. Tuber</td> </tr> <tr> <td>2. This underground stem becomes enlarged at the growing tips by the accumulation of stored food, commonly starch</td> <td>b. Bulb</td> </tr> <tr> <td>3. A short underground stem with fleshy leaf base called scales. Stem is very much reduced and becomes disc like</td> <td>c. Corm</td> </tr> <tr> <td>4. A short, thick and un-branched underground stem with stored food material. It grows vertically and covered by thin sheathing leaf bases of dead leaves called scales</td> <td>d. Rhizome</td> </tr> <tr> <td>5. A slender lateral branch which appears from the lower part of main axis. This lateral branch grows aerially for some distance and becomes arched and finally touches the ground to give rise to new shoot with the help of its terminal bud.</td> <td>e. Offset</td> </tr> <tr> <td>6. Found in aquatic plants like water hyacinth and Pistia. It bears a cluster of leaves near the water or ground level and gives adventitious roots inside water or ground from all nodes</td> <td>f. Sucker</td> </tr> <tr> <td>7. A lateral branch which grows obliquely upwards and gives rise to a new plants</td> <td>g. Stolon</td> </tr> </table>	1. Thickened, prostrate, underground stem having distinct nodes and internodes, scaly leaves at the nodes, axillary and terminal buds present	a. Tuber	2. This underground stem becomes enlarged at the growing tips by the accumulation of stored food, commonly starch	b. Bulb	3. A short underground stem with fleshy leaf base called scales. Stem is very much reduced and becomes disc like	c. Corm	4. A short, thick and un-branched underground stem with stored food material. It grows vertically and covered by thin sheathing leaf bases of dead leaves called scales	d. Rhizome	5. A slender lateral branch which appears from the lower part of main axis. This lateral branch grows aerially for some distance and becomes arched and finally touches the ground to give rise to new shoot with the help of its terminal bud.	e. Offset	6. Found in aquatic plants like water hyacinth and Pistia. It bears a cluster of leaves near the water or ground level and gives adventitious roots inside water or ground from all nodes	f. Sucker	7. A lateral branch which grows obliquely upwards and gives rise to a new plants	g. Stolon	12	CO1,2,3,4	BT1, BT2, BT3
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	<p>Q1 B. State whether the following statements are true or false "with justification" (5 M)</p> <ol style="list-style-type: none"> 1. The condition in which fruits are developed without the formation of seeds is called oogamy 2. A leaflet hook is a type of specialized leaf which has a threadlike shape and coils around objects and provide support that enables the plant to climb 																	

	<p>3. Transpiration refers to the excretion of water from the edges of leaves and other vascular plants due to increased levels of water in the soil at night</p> <p>4. In a siliqua fruit, the fruit wall is free from testa and shows the presence of a pappus having a crown of hair like processes which helps in wind-dispersal</p> <p>5. Medullary bundles and cortical bundles are formed as a part of normal plant development</p>			
<p>Q.2</p>	<p>Answer the following in one or two sentences (6 questions X 2 Marks=12 Marks)</p> <ol style="list-style-type: none"> 1. Discuss the different types of sclereids 2. Differentiate angular collenchyma from lacunar collenchyma 3. Discuss the mechanism by which the venus flytrap catches its prey 4. How do you identify a spathy bract? 5. What do you mean by a paripinnate and an imparipinnate leaf? 6. Discuss any two points of difference between a true fruit and a false fruit 	<p>12</p>	<p>CO1,2,3,4</p>	<p>BT1, BT2, BT3</p>
<p>Q.3</p>	<p>Answer the following in detail ANY FOUR (4 Marks X 4 questions =12 Marks)</p> <p>Q3 Answer the following in detail ANY FOUR (4 Marks X 4 questions =16 Marks)</p> <ol style="list-style-type: none"> 1. Identify and comment on the following <ol style="list-style-type: none"> a. Type of anther in A b. Type of style in B c. Type of corolla in C d. Type of placentation in D <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>A</p> </div> <div style="text-align: center;">  <p>B</p> </div> <div style="text-align: center;">  <p>C</p> </div> <div style="text-align: center;">  <p>D</p> </div> </div> <ol style="list-style-type: none"> 2. What are foliage leaves, cataphylls and hypsophylls? What are bundle sheath cells? 3. What is the type of fruit in Strawberry, Custard apple, Coconut, Pea? 4. How does a monocot seed differ from a dicot seed in its structure 5. Explain how plants participate in defense 	<p>16</p>	<p>CO1,2,3,4</p>	<p>BT1, BT2, BT3</p>

*****End of Question Paper*****