

[Time: Three Hours]

[Marks:100]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Figures to the right indicate marks.
 3. Draw neat and labelled diagrams wherever necessary.

Q.1 A) Choose the correct option from the following and rewrite the sentence. 10

i. _____ is a marine alga and is commonly known as 'Gulfweed'.

- | | |
|---------------------|----------------------|
| a. <i>Sargassum</i> | b. <i>Ectocarpus</i> |
| c. <i>Dictyota</i> | d. <i>Laminaria</i> |

ii. In Phaeophyta, the reserve food material occurs in the form of _____.

- | | |
|------------|---------------------------|
| a. starch | b. laminarin and mannitol |
| c. glucose | d. glycogen |

iii. The internal structure of *Anthoceros* is _____.

- | | |
|---------------|------------------|
| a. isomorphic | b. heterogenous |
| c. homogenous | d. heteromorphic |

iv. In *Funaria*, each set of peristome consist of _____ teeth.

- | | |
|-------|-------|
| a. 8 | b. 18 |
| c. 32 | d. 16 |

v. Diadelphous stamens are found in _____.

- | | |
|------------------|---------------|
| a. Caesalpiniae | b. Mimosae |
| c. Papilionaceae | d. Asteraceae |

vi. *Helianthus annuus* belongs to family _____.

- | | |
|----------------|------------------|
| a. Asteraceae | b. Palmae |
| c. Leguminosae | d. Amaranthaceae |

vii. Rank ending in '- ales' denotes _____.

- | | |
|-----------|-------------|
| a. Family | b. Division |
| c. Cohort | d. Class |

viii. Tamarind is botanically known as _____.

- | | |
|-----------------------------|----------------------------|
| a. <i>Tamarindus indica</i> | b. <i>Areca catechu</i> |
| c. <i>Butea monosperma</i> | d. <i>Celosia argentia</i> |

ix. The universally accepted size of a herbarium sheet is _____.

- | | |
|--------------|------------------|
| a. 12" X 18" | b. 11.5" X 16.5" |
| c. 10" X 16" | d. 16" X 16" |

x. Partition in buffer tanks of electrophoretic unit helps to prevent alternations in

_____.

a. pH
c. voltage

b. current
d. separation

Q.1 B) Answer the following in one or two sentences. 10

- i. Mention any two economic importance of brown algae.
- ii. Name the outer and inner wall layers of *Funaria* spores.
- iii. What is syngenesious anther? Give an example.
- iv. What is Plant Taxonomy? Name the father of Plant Taxonomy.
- v. Name any two types of preservation methods of plant specimens.

Q.2 Answer any two of the following. 20

- i. Describe the range of thallus structure in Phaeophyta.
- ii. Describe the external morphology of *Sargassum*. Add a note on its systematic position.
- iii. With reference to *Funaria* explain:
 - a) T.S. of leaf (phylloid)
 - b) T.S. of stem
- iv. With a neat labelled diagram explain the internal structure of sporophyte of *Anthoceros*.

Q.3 Answer any two of the following. 20

- i. Give the systematic position, distinguishing characters and floral formula of subfamily - Caesalpinae.
- ii. Assign any two plants to their respective subfamily / family giving reasons and give its economic importance
 - a. *Caryota urens*
 - b. *Celosia argentea*
 - c. *Clitoria ternatea*
- iii. Describe the importance of embryology in relation to Taxonomy.
- iv. Discuss the rules of ICBN.

Q.4 Answer any two of the following. 20

- i. Explain the principle and working of Compound Microscope
- ii. Describe the process of making Herbarium.
- iii. Discuss the principle, construction and working of horizontal gel electrophoresis
- iv. Give a detailed account of TLC and its applications

Q.5 Write short notes on **any four**.

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- i. Male conceptacles in *Sargassum*.
 - ii. Vegetative reproduction in *Anthoceros*.
 - iii. Economic importance of subfamily Mimosae.
 - iv. Taxonomy in relation to ecology.
 - v. Resolution of light microscope and factors affecting it.
 - vi. Advantages and disadvantages of Electron microscope.
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