

- N. B. 1. All the questions are compulsory.  
2. Figures to the right indicate full marks.  
3. Draw neat labelled diagrams where ever necessary.

Q.1. A] Choose the most correct option and rewrite the sentence. (10)

- a) .....pigments are present in cell sap of petals.  
i) Betalains ii) Anthocyanins  
iii) Chlorophylls iv) Brassinosterols
- b) Cells of .....possess lens shaped chloroplast.  
i) *Anthoceros* ii) *Plagiochasma*  
iii) *Funaria* iv) *Targionia*
- c) *Areca catechu* belongs to the family .....  
i) Araceae ii) Aracaceae  
iii) Anacardiaceae iv) Amaranthaceae
- d) ..... microscopy requires ultrathin sections of the specimen.  
i) Phase Contrast ii) Electron  
iii) Light iv) All of the above
- e) Glucosinolates are distinctive of the order.....  
i) Caryophyllales ii) Capparales  
iii) Polygalales iv) Papavarales
- f) .....lens in the compound microscope focusses light onto the object.  
i) Oil immersion ii) Objective  
iii) Ocular iv) Condenser
- g) .....functions as conducting tissue in *Sargassum*.  
i) Medusa ii) Medulla  
iii) Meristoderm iv) Xylem
- h) Sporophyte of *Anthoceros* shows absence of.....  
i) Foot, Seta and Capsule ii) Foot and Capsule  
iii) Foot and Seta iv) Seta
- i) *Sargassum* shows absence of.....  
i) Sexual Reproduction ii) Asexual reproduction  
iii) Alternation of generations iv) All of the above
- j) .....are present on the leaves of *Sargassum*.  
i) Conceptacles ii) Hepteron  
iii) Cryptostomata iv) Receptacles

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

- a) Function of Condenser lens  
b) Protonema in *Funaria*.  
c) Inflorescence type in Arecaceae  
d) Symmetric Karyotype  
e) Allopolyploides

- Q.2. Answer **any two** from the following: (20)
- Describe the morphology of *Sargassum* thallus. Add a note on its systematic position.
  - Describe the general characters of Phaeophyta.
  - Describe the L.S. of Capsule of *Funaria*. Add a note on its systematic position.
  - Describe the general characteristics of Anthoceropsida.
- Q.3. Answer **any two** from the following: (20)
- What are the embryological characters of Taxonomic importance? Discuss the cases where these characters have been utilized.
  - Discuss the relevance of Pollen characteristics in Plant Taxonomy.
  - Give the morphological features, floral formula, systematic position and economic importance of family Caesalpinaceae.
  - Give the morphological features, floral formula, systematic position and economic importance of family Fabaceae.
- Q.4. Answer **any two** from the following: (20)
- Discuss the principle and working of Transmission electron microscope.
  - Discuss the principle and working of Compound light microscope.
  - Discuss the principle, working and applications of Gel electrophoresis.
  - Discuss the steps involved in the preparation of a Herbarium.
- Q.5. Write short notes on **any four** of the following: (20)
- Gametophyte of *Funaria*
  - Structure of flower in Amaranthaceae
  - Economic importance of Arecaceae
  - Binomial Nomenclature
  - Wet preservation
  - ICNAFP