



N.B. : (1) All questions are compulsory.

(2) Figures to the right indicate full marks.

(3) Draw neat and labeled diagrams wherever necessary.

**Q.1 (A) Fill in the blanks.**

**(10 Marks)**

1. *Areca catechu* (Supari) is a member of family .....  
a) Mimosae                      b) Palmae                      c) Papilionaceae
2. *Helianthus annuus* (Sunflower) belongs to family .....  
a) Asteraceae                      b) Palmae                      c) Caesalpinae
3. In angiosperms the ovules are enclosed in .....  
a) Anther                      b) Ovary                      c) Corolla
4. The genus *Anthoceros* is included under .....  
a) Musci                      b) Eubrya                      c) Ascomycetes
5. At the base of sporogonium is present a tubular sheath is called .....  
a) Involucre                      b) Columela                      c) foot
6. .... is basal expanded part of sporogonium  
a) Seta                      b) Capsule                      c) foot
7. The vesicles are ..... shaped  
a) Elipsoidal                      b) Rounded or egg shaped                      c) Square
8. The sexual reproduction in *Sargassum* is .....  
a) isogamous                      b) unisomous                      c) oogamous
9. The mobile phase in TLC is .....  
a) Liquid                      b) solid                      c) Gas
10. The study of algae is called .....  
a) Mycology                      b) Phycology                      c) Cytology

**Q 1 (B) Answer in one sentence**

**(10 marks)**

1. What are Gemmae?
2. What is Binomial nomenclature?
3. Define Electrophoresis.
4. Give the names of types of chromatography
5. Name the algae associated with thallus of *Anthoceros*.

**Q. 2. Answer any two from the following:**

**(20 marks)**

- (a) Describe the external morphology in *Sargassum*.
- (b) Describe the economic importance of Phaeophyta.
- (c) Explain the external morphology of *Anthoceros*.
- (d) Give systematic position and internal morphology of *Funaria*.

**Q. 3. Answer any two from the following:**

**(20 marks)**

- (a) Describe Cytology in relation to taxonomy.
- (b) Classify family Asteraceae with reason and name two economically important plants with uses.
- (c) Describe Palynology in relation to taxonomy.
- (d) Give the general characters and any two economically important plants from Family Papilionaceae.

**Q. 4. Answer any two from the following:**

**(20 marks)**

- (a) Describe dry preservation technique.
- (b) Explain electrophoresis with a neat and labeled diagram.
- (c) Explain principle, construction and working of horizontal gel electrophoresis.
- (d) Describe TLC and its applications.

**Q. 5. Write short notes on: (Any four)**

**(20 marks)**

- (a) Systematic position of *Sargassum*
- (b) Dyes and techniques used for staining
- (c) Vegetative reproduction in Anthocerotopsida
- (d) Floras and Manuals
- (e) Transmission electron microscope
- (f) Structure of antheridium in *Anthoceros*