**ST JOSEPH’S UNIVERSITY, BENGALURU-27**

Registration Number:

Date & Session

**B.Sc. (BOTANY)– 2nd SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

**(Examination conducted in May/ June 2024)**

**BY222: BIOLOGY II**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 60**

**This paper contains TWO printed pages, TWO sections and THREE parts in each section.**

**Sections I and 2 have to be written in separate answer booklets.**

**SECTION I: BOTANY**

1. **Answer ANY FIVE of the following in two or three sentences 5 × 2 = 10**
2. Identify the alga (from what you have studied) and draw a labelled diagram of it, based on the characteristic features mentioned below
* The thallus is of a filamentous, unbranched type.
* The alga is able to perform nitrogen fixation.
* The alga does not exhibit sexual reproduction.
1. *“Chara* is an advanced alga”, justify with atleast two reasons.
2. Define Chantransia stage and mention its significance.
3. “Erect leafy forms of bryophytes are anatomically well developed compared to the thalloid forms” - Give two evidences supporting this statement.
4. Write a note on rhizoids of *Marchantia.*
5. Describe the structure of gemma.
6. Give the schematic representation of the life cycle of Bryophytes.
7. **Answer ANY TWO of the following in brief 2 × 5 = 10**
8. Highlight the diversity of sexual reproduction observed in algae.
9. Illustrate the mechanism of autocolony formation in *Volvox.*
10. Give an account of the economic significance of Bryophytes.
11. **Answer ANY ONE of the following in detail 1 × 10 = 10**
12. a) Name an alga that you have studied which exhibits a diplontic type of lifecycle.

b) Explain about its sexual reproduction in detail

1. a) With a diagram, describe the L.S. of the sporophyte of *Anthoceros.*

b) Add a note on the differences between the sporophyte of *Anthoceros* and *Marchantia.*

**SECTION II: ZOOLOGY**

1. **Answer ANY FIVE of the following in two or three sentences 5 × 2 = 10**
2. Define Trilobites.
3. List out any two functions of Parapodia.
4. Write the unique characteristics of Rotifers.
5. Mention any two advantages of Vermiculture.
6. Name the arteries that branches from Visceral artery in *Unio*.
7. Define Heteroneries.
8. Draw a neat labelled diagram of gill filament in fresh water *Mussel*.
9. **Answer ANY TWO of the following in brief 2 × 5 = 10**
10. Illustrate and explain the anatomy of digestive system in Earth worm.
11. Justify why Peripatus is considered as a connecting link.
12. Draw a neat labelled diagram of Nauplius larva
13. **Answer ANY ONE of the following in detail 1 × 10 = 10**
14. Describe the structure and functions of water vascular system in sea star with a neat labelled diagram.
15. Explain the functions of foot in Molluscs and add a note on the foot modification in *Chiton* and *Pila.*