

Registration Number:

Date & session:

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

**B.Sc (BIOLOGY) – III SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November/December 2023)**

**BY323: BIOLOGY III**

**(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 II HAVE TO BE WRITTEN IN SEPARATE ANSWER BOOKLETS**

**Draw diagrams and give examples wherever necessary**

**SECTION I: BOTANY**

**A. Answer any FIVE of the following in two to three sentences each: 5 x 2 = 10**

1. Xerophytic traits of gymnosperms

2. Actinostele

3. Microphyllous pteridophytes

4. Rhopalostachya

5. Leaf dimorphism in *Pinus*

6. Polyembryony

7. Any two organ genera of *Glossopteris*

**B: Write notes on any TWO of the following: 2 x 5 = 10**

8. Rhizome anatomy of *Marsilea*

9. Economic importance of gymnosperms

10. Sporophyte morphology of *Rhynia*

**C: Give a comprehensive account of any ONE of the following: 1 x 10 = 10**

11. Answer the following

a) Morphology of *Equisetum*  (6 marks)

b) Modes of vegetative reproduction in *Lycopodium* (4 marks)

12. Reproductive structures of *Gnetum*

**SECTION II: ZOOLOGY**

**A. Answer any FIVE of the following in two-three sentences each: 5 x 2 = 10**

1. List any two characters of Chordates.

2. Mention the location and function of the Wheel organ?

3. Why are Cyclostomes called so?

4. Draw and label the externals of *Petromyzon*.

5. Give any two differences between cartilaginous and bony fishes.

6. Write a note on fish canning.

7. How does *Alytes* exhibit parental care?

**B: Write notes on any TWO of the following: 2 x 5 = 10**

8. Draw and label the tornaria larva. Why is tornaria larva evolutionarily important?

9. Explain the neuro-endocrine control of metamorphosis in Amphibia.

10. List the interesting features of Dipnoi.

**C: Give a comprehensive account of any ONE of the following: 1 x 10 = 10**

11. Metamorphosis in *Ascidia* is retrogressive-Explain.

or

Detail catadromous or anadromous migration in fishes with a suitable example.

12. List the salient features of Agnatha, classify with examples.

or

List the salient features of Amphibia, classify with examples.