



Register Number:  
Date: 09/01/2021

**ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27**  
**M.Sc. BOTANY - I SEMESTER**  
**SEMESTER EXAMINATION: JANUARY 2021**  
**BO 7318 – PALEOBOTANY, PALYNOLOGY AND PLANT ANATOMY**

Time - 2 ½ Hours

Max. Marks - 70

This paper contains ONE printed page and THREE parts

Draw diagrams wherever necessary

**A. Define any TEN of the following**

10x2=20

1. Compressions
2. Denudation
3. Spores of *Lycopodium*
4. Calyptragen
5. Promeristem concept
6. NPC system
7. Duramen
8. Concentric vascular bundle
9. *Sahnipushpam shuklai* and *Harrisocarpon sahnii*
10. Acetolysis technique
11. Zonations of shoot apex
12. Centric leaves

**B. Write critical notes on any FIVE of the following**

5x6=30

13. Exine ornamentation of pollen
14. Concepts of protoxylem and metaxylem
15. Organ genus, combination genus and form genus
16. Aerobiology in human respiratory allergy and immunology
17. Compare the changes in the shoot apex of vegetative and reproductive stage
18. Structure and activity of vascular cambium
19. Types of stomata

**C. Give a comprehensive account of any TWO of the following**

2x10=20

20. Paleobotanical techniques for studying macrofossils
21. a) Melittopalynology  
b) Role of paleobotany in exploration of fossil fuels
22. a) Anomalous secondary growth in *Beta vulgaris*  
b) Root-stem transition