**D5BBT2301** **Reg. No.....**

**Name: .....**

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2025**
**(Regular/Improvement/Supplementary)**
**BOTANY**
**GBOT5B06T: CELL BIOLOGY, PALAEOBOTANY, PHYTOGEOGRAPHY & EVOLUTION**

**Time: 2 Hours** **Maximum Marks: 60**

**SECTION A: Answer the following questions. Each carries *two* marks.**
**(Ceiling 20 marks)**

1. What is glacier? What are the different types of glacier movement?
2. Write an account on satellite chromosome.
3. Enumerate the significance of mitosis and meiosis.
4. Describe Robertsonian translocation.
5. Define fossil. Discuss the significance of fossils.
6. What is mummification? Explain different types of mummification.
7. Define phytogeography? Discuss the major divisions of phytogeography.
8. What is vicarious distribution? Give examples.
9. Differentiate between euchromatin and heterohromatin.
10. List out the significance of Indus plains.
11. What is geographical isolation? Give examples.
12. Enumerate the evolutionary significance of isolation.

**SECTION B: Answer the following questions. Each carries *five* marks.**
**(Ceiling 30 marks)**

13. Discuss the structure of mitochondria. Do you agree that mitochondria and chloroplast are autonomous organelle? Why?
14. Give an account on the evolution of 'Darwin finches'.
15. Explain the anatomy of *Lepidodendron*.
16. Describe the ultrastructure of eukaryotic cell.
17. Give an account on the reproductive structure of *Williamsonia*.
18. Describe the major patterns of plant distribution. List out the factors affecting distribution of species.
19. Explain the different types of endemism.

**SECTION C: Answer any *one* question. The question carries *ten* marks.**

20. Explain the structure and functions of the following:
    a) Chloroplast b) Lysosomes c) Glyoxisomes d) Ribosomes e) Cytoskeleton
21. Write an account on the theories and experimental evidences of origin of life.

**(1 x 10 = 10 Marks)**