

**Botany Paper – I**

**March - 2009**

Part III

**Time : 3 hours**

**Max.Marks : 60**

**Note:-** Read the following instructions carefully.

- i. Answer **all** the questions of **Section A**. Answer **anySix** questions out of eight in **Section B** and answer **ANY TWO** questions out of three in **Section C**.
- ii. In **Section A**, questions from Sl.Nos. **1 to 10** are of very short answer type. Each question carries **TWO** marks. Every answer may be limited to 5 lines. Answer all these questions at one place in the same order.
- iii. In **SectionB**, questions from Sl. Nos. **11 to 18** are of Short answer type. Each question carries **FOUR** marks. Every answer may be limited to 20 lines.
- iv. In **SectionC**, questions from Sl.Nos. **19 to 21** are of Long answer type. Each question carries **EIGHT** marks. Every answer may be limited to 60 lines.
- v. Draw labeled diagrams wherever necessary for questions in **Section B** and **C**.

**SECTION – A**

**10 X 2 = 20**

**Note:-** Answer **all** the following questions. Each answer may be limited to 5 lines.

1. Which group of plants are called vascular cryptogams? Name the branch of Botany which deals with them.
2. What is epiphytic habit? Which roots help it?
3. Which underground stem modification does not possess roots? Mention its scientific name.
4. What are the two types of stamens classified depending on their length?
5. In which plant of Liliaceae, the leaf apex is modified into a tendril? Mention the contrivances of cross pollination seen in it.
6. Differentiate between metacentric and sub-metacentric chromosomes.
7. In a cell haploid chromosome number is 15. What number is found in pollen grain, zygote, primary endosperm nucleus and colchicine treated zygote?
8. Define ecosystem. Name the scientist who coined the term ecosystem.
9. What is crossing over? What is its significance?
10. What are mutations? Who discovered them?

**Section – B**

**6 X 4 = 24**

**Note:-** Answer **ANY SIX** questions. Each answer may be limited to 20 lines.

11. Differentiate between Cyathium and Hypanthodium.
12. What are the three types of entry of pollen tube into the ovule? Give the examples with labeled diagrams.
13. Write a note on ICBN.
14. Describe the structure and function of “ Power houses of the cell” with a labeled diagram.
15. List out any four differences between RNA and DNA.

16. Which tissue secretes water? Describe its structure and mention two examples of plants in which it is found. Draw a labeled diagram.
17. Give any four anatomical adaptations shown by Xerophytes.
18. Why did Mendel choose the pea plant for his experiments?

**SECTION – C**

**2 X 8 = 16**

**Note:-** Answer **ANY TWO** questions. Each answer may be limited to 60 lines.

19. Describe the different leaf modifications with labeled diagrams and suitable examples.
20. Describe the different types of fruits having fleshy fruit walls with labeled diagrams.
21. Describe the transverse section of a dicot stem with labeled diagrams.