LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**B.Sc.** DEGREE EXAMINATION – **PLANT BIOLOGY & PLANT BIO-TECH.**

THIRD SEMESTER – NOVEMBER 2012

# PB 3508/3504/4505 - CELL BIOLOGY AND ANATOMY

Date : 05/11/2012 Dept. No. Max. : 100 Marks

Time : 9:00 - 12:00

**PART – A**

**Answer the following, each within 50 words: (10 x 2 = 20 marks)**

1. State the principle of fluorescent microscope.
2. What are lysosomes?
3. Define karyotype.
4. What is telomere?
5. Define cell cycle.
6. What are secretory cells?
7. Define apical meristem.
8. What is meant by exarch xylem?
9. What is anisocytic stomata.
10. What is unilacunar node?

**PART – B**

**Answer the following, each within 500 words:**

**Draw diagrams, flowcharts wherever necessary: (5 x 7 = 35 marks)**

1. a) Briefly explain the working principle of phase contrast microscope.

**(OR)**

b) Describe the ultrastructure of nucleaus.

12. a) How are chromosomes classified.

**(OR)**

b) Classify nucleic acids and add a note on histones.

13. a) Draw and explain the different stages in Mitosis.

**(OR)**

b) What are permanent tissues? Give an account on Schlerenchyma.

14. a) Classify and explain the types of meristem.

**(OR)**

b) Write a brief account on vascular cambium.

15. a) Draw and explain the primary structure of a dicot stem.

**(OR)**

b) Give a brief account on the anatomical features of Dracaena stem.

**PART – C**

**Answer any THREE of the following, each within 1200 words;**

**Draw diagrams, flowcharts wherever necessary: (3 x 15 = 45 marks)**

16. Describe in detail the structure and function of chloroplast.

17. Give an account giant chromosomes.

18. Draw and explain the different stages of meiosis.

19. Give an account on theories of apical meristem.

20. Explain anomalous secondary growth in Bignonia.

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