LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**

THIRD SEMESTER – **APRIL 2018**

PB 3508– CELL BIOLOGY AND ANATOMY

Date: 07-05-2018 Dept. No. Max. : 100 Marks

Time: 01:00-04:00

PART A

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

1. What are Lysosomes?
2. Define Resolving power.
3. What are Histones?
4. What is a telomere?
5. Comment on sclerids.
6. Define amitosis.
7. What is fascicular cambium?
8. What is radicle and plumule?
9. Deineendarch and exarch.
10. What is trilacunar node?

PART B

Answer the following, each within 500 words. Draw diagrams and flowcharts wherever necessary: **(5×7= 35marks)**

11.a) Explain the principle and working mechanism of phase contrast microscope.

(OR)

b) Briefly explain the structure of a nucleus.

12. a) Detail the structure of any one special type of chromosome.

(OR)

b) What is centromere? How are chromosomes classified based on the position of centromere?

13. a) Give a brief account on permanent tissues in plants.

(OR)

b) Explain the different stages of mitosis with diagrams.

14. a) Write notes on the origin and development of vascular cambium.

(OR)

b) Explain the anatomical features of a dicot leaf.

15. a) Describe the anomalous secondary growth in *Dracaena*.

(OR)

b) Explain Darwinism and Neo-Darwinism theories in evolution.

PART C

Answer any three of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary. **(3×15= 45marks)**

16. Draw and explain the structure of a typical plant cell.

17. Explain the structure of chloroplast. Discuss on how it helps in photosynthesis.

18. Write detailed notes on cell cycle.

19. Explain the different theories on the origin and development of apical meristems.

20. Give an account on the parts, structure and types of stomata with specific examples

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