LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECONDSEMESTER – APRIL 2017

PB 2506- CELL BIOLOGY AND EVOLUTION

Date: 05-05-2017 Dept. No. Max. : 100 Marks
01:00-04:00

PART – A

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

1. Define resolving power.
2. Write the principle of phase contrast microscope
3. What are Bordered pits.
4. Write the function of Peroxisome.
5. What are Histones?
6. Write notes on Balbiani rings.
7. What is Terminalisation
8. Define Amitosis.
9. Define "survival of the fittest"
10. Define speciation

PART – B

Answer the following, each within 500 words, draw diagrams and flow charts wherever necessary.
(5×7= 35 marks)

11.a) Write the working mechanism of phase contrast microscope.

(OR)

b) Differentiate prokaryote from eukaryote.

12. a) Describe the structure of Golgi complex.

(OR)

b) Write types, composition and function of ribosomes.

13. a) Explain the structure of polytene chromosome.

(OR)

b) Based on the position of centromere, classify metaphase chromosome.

14. a) Describe different phases in a cell cycle.

(OR)

b) Explain the stages of mitosis.

15. a) Explain Lamarck's theory of organic evolution.

(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 flow charts wherever necessary. **(3×15= 45 marks)**

16. Write in detail the principle of an electron microscopy and add a note on its types and parts.

17. Explain in detail how mitochondrial structural organization helps in its function.

18. Write detailed notes on karyotype and Idiogram.

19. Explain the different stages of meiosis.

20. Detail the concept of speciation and isolation according to synthetic theory.

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