

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



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

**FIRST SEMESTER – NOVEMBER 2019**

**UPB 1501 – CELL BIOLOGY AND EVOLUTION**

Date: 30-10-2019

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

**PART-A (10 x 2 = 20 Marks)**

**Answer the following, each within 50 words**

1. What are the uses of Phase Contrast Microscopy?
2. Mention any two characteristics of prokaryotic cells.
3. Distinguish between smooth and rough endoplasmic reticulum.
4. What is nucleoplasm?
5. Define karyotyping.
6. What is centromere?
7. What is G1 Phase?
8. Define Amitosis.
9. Comment on molecular evolution.
10. Write notes on synthetic theory

**PART- B (5 x 7 = 35 Marks)**

**Answer the following, each within 500 words, Draw Diagrams whenever necessary**

11. (a) Explain the working principles of SEM.  
(OR)  
(b) Write an account on the working principles and usages of dark field microscope.
12. (a) Describe the structure and function of chloroplast.  
(OR)  
(b) Explain the structure of Golgi apparatus. List out its functions.
13. (a) Write a short notes on polytene chromosomes.  
(OR)  
(b) Explain the structure of chromosomes.
14. (a) Explain the various stages of cell cycle.  
(OR)  
(b) Describe the stages in Mitosis.
15. (a) Explain mutation theory by Hugo de vries.  
(OR)  
(b) Write shorts notes on Lamarckism and Neo-Lamarckism.

**PART-C (3 x 15 = 45 Marks)**

**Answer any three of the following, each within 1200 words, Draw Diagrams whenever necessary**

16. Distinguish between the structure of Eukaryotic and Prokaryotic cells.
17. Discuss in detail about the structure and organization of nucleus.
18. Write detailed notes on the classification of chromosomes.
19. Explain the various phases of Meiosis.
20. Write detailed notes on Darwinism and Neo-Darwinism.

\*\*\*\*\*