



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECOND SEMESTER – APRIL 2013

PB 2506 - CELL BIOLOGY AND EVOLUTION

Date: 03/05/2013
Time: 9:00 - 12:00

Dept. No.

Max. : 100 Marks

PART – A

ANSWER THE FOLLOWING, EACH WITHIN 50 WORDS ONLY:

(10 x 2 = 20 marks)

01. Define prokaryotic cell.
02. Give the principle of dark field microscope.
03. What are polysomes?
04. Pinocytosis – Explain.
05. What are SAT chromosomes?
06. Define karyotype.
07. Briefly explain amitosis.
08. What happens during G₁ phase of Cell Cycle?
09. What is mutation theory?
10. What is molecular evolution?

PART – B

**ANSWER THE FOLLOWING, EACH WITHIN 500 WORDS.
DRAW DIAGRAMS WHEREVER NECESSARY:**

(5 x 7 = 35 marks)

11. a. Describe the general organization of eukaryotic cell.
(OR)
b. Mention the various parts and their uses of Light microscope.
12. a. Explain the structure and function of Endoplasmic reticulum.
(OR)
b. Write an account of the fine structure of nucleus.
13. a. Write the classification of chromosome base on the position of centromere.
(OR)
b. Give an account on Lamp brush chromosome.
14. a. Describe the process of mitosis.
(OR)
b. Write notes on
(a) S phase
(b) G₂ phase.
15. a. Comment on Lamarck's theory of evolution.
(OR)
b. Describe Modern synthetic theory.

PART – C

ANSWER ANY THREE OF THE FOLLOWING, EACH WITHIN 1200 WORDS.

DRAW DIAGRAMS WHEREVER NECESSARY:

(3 x 15 = 45 marks)

16. Write notes on the principle and applications of SEM.
17. Describe the structure and functions of mitochondria.
18. Describe the structure and organization of chromosomes.
19. Explain the various stages of meiosis.
20. Write the evolutionary theory of Charles Darwin. Add a note on its merits and demerits.

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