

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

SECOND SEMESTER – APRIL 2016

PB 2506 – CELL BIOLOGY AND EVOLUTION

Date: 23-04-2016

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

PART – A

ANSWER THE FOLLOWING, EACH WITHIN 50 WORDS ONLY.

(10 x 2 = 20 marks)

01. Define prokaryotic cell.
02. What is resolving power?
03. What are Lysosomes?
04. Define Rough Endoplasmic reticulum.
05. Define karyotype.
06. Write notes on tRNA.
07. Define open mitosis.
08. What is meant by amitosis?
09. Write about the 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)

- 11a. Explain the properties of cytoplasm.
(OR)
- b. Enumerate the principle and uses of fluorescent microscope.
- 12a. Give an illustrated account on the structure of nucleus.
(OR)
- b. Write an account on the structure of Plasma membrane.
- 13a. Describe the double helical structure of DNA.
(OR)
- b. Write notes on the Polytene chromosome.
- 14a. Explain the mitotic cell division with suitable diagram.
(OR)
- b. Write an account on the different phases of Cell cycle.
- 15a. Explain Darwin's theory of evolution.
(OR).
- b. Write a brief note on the concept of 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 an account on the working principle and applications of SEM.
17. Explain the structure and functions of mitochondria.
18. Discuss the organization of eukaryotic chromosome.
19. Describe the various stages of Meiosis.
20. Write an essay on the evolutionary theory of Lamarck. Add a note on its merits and demerits.

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