



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

THIRD SEMESTER – NOVEMBER 2019

16/17/18UPB3MC02 – CELL BIOLOGY AND EVOLUTION

Date: 31-10-2019

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

PART – A

ANSWER THE FOLLOWING, EACH WITHIN 50 WORDS ONLY

(10×2= 20)

1. What is Resolving power?
2. What are Polysomes?
3. What are Peroxisomes?
4. Define Matrix.
5. What is Metacentric chromosome?
6. Define Nucleosome.
7. What is Interphase?
8. What is Spindle fiber?
9. Comment on Organic evolution.
10. What is Speciation?

PART – B

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

(5×7= 35)

11. a) Write notes on the properties of cytoplasm.

(OR)

b) Explain the parts of a dark field microscope with diagram.

12. a) Explain the structure of Golgi complex and write its functions.

(OR)

b) Write notes on the structure of mitochondria. Add note on its functions.

13. a) Explain the steps involved in karyotyping and add a note on its function.

(OR)

b) Briefly explain the structure of polytene chromosomes and add note on its functions.

14. a) Explain about the stages in mitosis.

(OR)

b) Write notes on the substages of Prophase I of meiosis.

15. a) Explain the theory of inheritance of acquired characters.

(OR)

b) Discuss briefly about the theory of Darwin in evolution.

PART – C

ANSWER ANY THREE OF THE FOLLOWING, EACH ANSWER WITHIN 1200 WORDS. DRAW
DIAGRAMS WHEREVER NECESSARY (3×15= 45)

16. Write details on the structure of an eukaryotic cell.
17. Explain the ultrastructure and function of chloroplast.
18. Write an essay on the structural organization of a chromosome.
19. Write in detail about the stages of cell cycle.
20. Describe the modern synthetic theory of evolution.
