

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



**B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY**

**FIFTH SEMESTER – NOVEMBER 2017**

**AZ 5516 – CELL AND MOLECULAR BIOLOGY**

Date: 01-11-2017

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

**PART A**

**ANSWER ALL questions**

**(10X2=20MARKS)**

1. Define cell theory.
2. Give the uses of phase contrast microscope.
3. What is trilaminar concept.
4. Give the function of centrioles.
5. What is autoradiography?
6. Comment on cell fractionation.
7. What is cell signaling?
8. What is metastasis?
9. Give examples of progenitor cells.
10. Illustrate Okazaki fragment.

**PART B**

**ANSWER ANY FOUR questions, each in about two pages**

**(4X10=40 MARKS)**

11. Give an account of differential centrifugation.
12. Explain five methods by which cytological specimens are prepared for microscopic observation.
13. Elucidate the various plasma membrane models.
14. Compare mitosis and meiosis.
15. Give the ultrastructure of mitochondria with a neat labeled diagram.
16. Write notes on nuclear transplantation.

**PART C**

**ANSWER ANY TWO questions, each in about 4 pages**

**(2X 20 = 40 MARKS)**

17. Explain the principle of working and application of scanning electron microscope.
18. Give a detailed account on tissue culture.
19. Describe DNA structure and elaborate its replication process.
20. Discuss the cytology of cancer. Add a note on cancer and cell cycle.

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