

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086  
(For Candidates admitted during the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11ZL/MC/CM34

B.Sc. DEGREE EXAMINATION NOVEMBER 2013  
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY  
THIRD SEMESTER

COURSE : MAJOR CORE  
PAPER : CELL AND MOLECULAR BIOLOGY  
TIME : 3 HOURS

MAX. MARKS: 100

**SECTION A**

ANSWER **ALL** THE QUESTIONS. (10 x 3 = 30)

1. What is active transport?
2. Differentiate between Prokaryote and Eukaryote cell.
3. Comment on Telocentric and Acrocentric chromosomes.
4. Give the function of
  - a) DNA Polymerase
  - b) RNA Polymerase
  - c) DNA Ligase
5. Comment on Lampbrush chromosomes.
6. What is meant by Pyrosequencing?
7. What is Okazaki fragments?
8. Mention the polymorphic forms of Lysosomes.
9. Distinguish between
  - a) Nucleotide and Nucleosides
  - b) Euchromatin and Heterochromatin
10. Comment on tRNA.

**SECTION B**

ANSWER **ANY FIVE** QUESTIONS. (5 x 6 = 30)

11. Write a note on the general structure of Eukaryotic cell.
12. List out the functions of Golgi complex.
13. Explain the fluid- mosaic model of Plasma membrane.
14. Enumerate the characteristic features of cancer cell.
15. Describe the structure and functions of ribosomes.
16. Explain Lac - Operon concept.
17. Discuss the process of DNA Replication.

**SECTION C**

ANSWER **ANY TWO** QUESTIONS. (2 x 20 = 40)

18. Describe the types, structure and functions of Endoplasmic Reticulum.
19. Write an essay on transport and transfer across cell membranes.
20. Give a detailed account on the mechanism of translation.
21. Write a detailed account on Human genome project.

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