

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2008-09)
SUBJECT CODE: ZL/MC/CM54

B.Sc. DEGREE EXAMINATION NOVEMBER 2010
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR CORE
PAPER : CELL AND MOLECULAR BIOLOGY
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

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

1. Draw a neat labelled diagram of an animal cell.
2. What are PPLO'S?
3. Describe active transport.
4. List out the different kinds of lysosomal enzymes.
5. How are polyribosomes formed?
6. What is meant by RNA splicing?
7. Explain the importance of antibiotics in protein synthesis?
8. Give a brief description of the Nucleolus.
9. What is the chemical composition of DNA?
10. Differentiate between somatic and germline gene therapy.

SECTION – B

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

11. Write about the physical properties of cytoplasm.
12. Describe the fluid mosaic model of the plasma membrane.
13. Write short notes on 70s and 80s ribosomes.
14. Comment on LINES and SINES.
15. Explain the action of mitotic inhibitors.
16. Give an account of the morphology and function of the polytene chromosome.
17. Explain the application of gene therapy in severe combined Immuno deficiency syndrome.

SECTION – C

ANSWER ANY TWO QUESTIONS

(2 x 20 = 40)

18. Discuss in detail the morphology, types and functions of Endoplasmic reticulum.
19. Explain in detail the Operon concept.
20. Differentiate between the conservative and semi-conservative replication of DNA.
Describe the experiment that supports the semiconservative mechanism with a note on the enzymes involved.
21. What are the different methods of DNA sequencing?
