

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2015 – 2016)

SUBJECT CODE: 15ZL/MC/CM54

B.Sc. DEGREE EXAMINATION - NOVEMBER 2017
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. What are prokaryotic cells? Give an example.
2. What are secondary lysosomes?
3. Comment on polytene chromosomes.
4. List any three types of post-translational modifications of proteins.
5. What are operons?
6. Draw and label the unit membrane model of plasma membrane.
7. What are ribosomes? List their functions.
8. Comment on apoptosis.
9. Mention the applications of DNA sequencing.
10. What is genetic code?

SECTION – B

ANSWER ANY FIVE QUESTIONS
(Draw diagrams where necessary)

(5 x 6 = 30)

11. Describe any three types of DNA repair mechanisms.
12. Describe the structure and functions of mitochondria.
13. Comment on regulation of the cell cycle.
14. Write a brief account on Human Genome Project.
15. What are transcription factors? Explain.
16. Explain the Endosymbiont theory.
17. Describe the organization of a nucleus.

SECTION – C

ANSWER ANY TWO QUESTIONS
(Draw diagrams where necessary)

(2 x 20 = 40)

18. Write an essay on the structure, types and functions of chromosomes.
19. Give a detailed account on replication of DNA.
20. Explain the Fluid Mosaic Model of the cell membrane and comment on its asymmetry and fluidity.
21. Describe the types of RNA and explain their functions.
