

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

SUBJECT CODE: 15ZL/MC/CM54

B.Sc. DEGREE EXAMINATION - NOVEMBER 2019
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. Explain endosymbiont theory.
2. Compare the Cisternae of ER and Golgi apparatus.
3. In which cells do they occur?
a) 70S ribosome b) 80S ribosome c) 77S ribosome
4. Mention the category of factors for protein synthesis with one example each.
5. Which stage of the meiosis is related to
a) synapsis b) chiasmata c) actual reduction
6. What is cell death?
7. Draw a neat labelled diagram of tRNA.
8. Expand: a) HGP b) NHGRI c) RFLP
9. Explain any one post translational modification of Collagen.
10. Comment on triplet code.

SECTION – B

ANSWER ANY FIVE QUESTIONS
(Draw diagrams where necessary)

(5 x 6 = 30)

11. Differentiate prokaryotic and eukaryotic cells.
12. Write an account on Polymorphism in Lysosomes.
13. Comment on polytene chromosome.
14. Describe the principle of Sanger's method.
15. Explain briefly the Lac operon of *E. coli*.
16. Write a short note on post transcriptional modifications.
17. Give a brief account on Human Genome Project.

SECTION – C

ANSWER ANY TWO QUESTIONS
(Draw diagrams where necessary)

(2 x 20 =40)

18. Describe the models proposed to explain the structure of Plasma membrane.
19. Describe the ultrastructure of a mitochondrion. Explain the chemiosmotic mechanism and Krebs' cycle.
20. Write an essay on Cancer biology.
21. Give a detailed account on DNA replication in prokaryotes.
