

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

SUBJECT CODE: 11BY/PC/CM14

M. Sc. DEGREE EXAMINATION, NOVEMBER 2013
BIOTECHNOLOGY
FIRST SEMESTER

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

SECTION – A

ANSWER ALL QUESTIONS: (20 x 1 = 20)

DEFINE / EXPLAIN THE FOLLOWING.

1. Fluid Mosaic Model
2. Proteins of Microfilaments
3. Mitochondrial genome
4. Polysome
5. Thymine dimerization
6. Initial codon - AUG
7. 16S rRNA
8. Complementation
9. Nucleoproteins
10. Polycistrons
11. DNA super coiling
12. Mobile DNA
13. House Keeping Genome
14. TATA box
15. Rho hairpin structure
16. Sigma factor
17. Tumor suppressor gene
18. Retrovirus
19. Ras oncogene
20. Apoptosis

SECTION – B

**ANSWER ANY FOUR QUESTIONS: EACH ANSWER NOT EXCEEDING
600 WORDS (4 x 10 = 40)**

21. Describe the structure of chloroplast and mention its functions.
22. Write an account on the properties of genetic code.
23. Illustrate and explain the organization of prokaryotic genome.
24. Bring out the events during protein processing.
25. Briefly explain cell cycle with a diagram.
26. Explain the forms and functions of heat shock proteins.

SECTION – C

**ANSWER ANY TWO QUESTIONS: DRAW DIAGRAMS WHEREVER
NECESSARY: EACH ANSWER NOT EXCEEDING 1500 WORDS (2 X 20 = 40)**

27. Describe the mechanisms involved in cell communication process.
28. Give details on mechanism of DNA replication and enzymes involved in it.
29. Explain transcriptional regulation in prokaryotes.
30. Elaborate on molecular approaches in cancer treatment.
