**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 2012**
**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. Adherens junctions
2. MTOC
3. Peroxisomes
4. Prokaryotes
5. PCNA
6. Codon
7. Z-DNA
8. Kozak sequence
9. Operon
10. Telomere
11. Transposons
12. Endosymbiont hypothesis
13. Homeotic genes
14. Activators
15. Attenuation
16. Methylation
17. Cyclins
18. Caspases
19. Metastasis
20. p53

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## SECTION – B

**ANSWER ANY FOUR QUESTIONS: (4 x 10 = 40 )**

21. Draw and describe the structure of the plasma membrane.
22. Describe the process of DNA replication with suitable illustration.
23. Discuss the structure and types of mobile elements.
24. Describe briefly the regulation of gene expression in eukaryotes.
25. Write short notes on apoptosis.
26. Discuss briefly the differences between normal and cancerous cells.

## SECTION – C

**ANSWER ANY TWO QUESTIONS: DRAW DIAGRAMS WHEREVER NECESSARY: ( 2 X 20 = 40 )**

27. Give a detailed description on the cytoskeleton and its types.
28. Describe in detail the process of transcription in prokaryotes.
29. Give a detailed account on the genome organization in eukaryotes.
30. Describe in detail the steps in protein processing, folding and transport.

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