

**STELLA MARIS COLLEGE (AUTONOMOUS) - CHENNAI 600 086**  
(For candidates admitted during the academic year 2005 – 2006 & thereafter)

**SUBJECT CODE: ZL/MO/ML64**

**B. Sc. DEGREE EXAMINATION APRIL 2009**  
**BRANCH – VI.A. – ADVANCED ZOOLOGY & BIOTECHNOLOGY**  
**SIXTH SEMESTER**

**COURSE : MAJOR – OPTIONAL**  
**PAPER : MOLECULAR BIOLOGY**

**TIME : 3 HOURS** **MAX. MARKS: 100**

**SECTION – A**

**ANSWER ALL QUESTIONS: (10 X 3 = 30)**

1. What are Introns and Exons?
2. Comment on small nuclear RNA.
3. Write about Okazaki fragments.
4. What is a template?
5. Write about Methionine.
6. What are ligases?
7. What is Replicon?
8. Invitro DNA replication.
9. What are Transposons?
10. Acylation.

**SECTION – B**

**ANSWER ANY FIVE QUESTIONS: (5 X 6 = 30)**

11. Describe glycoproteins.
12. Write about Post transcriptional modifications.
13. Explain the lac operon model in bacterial regulation of gene expression.
14. Describe semi conservative DNA replication.
15. Explain the role of telomerase in cell proliferation
16. Define gene therapy. Explain with an example.
17. Write about RNA polymerases.

**SECTION – C**

**ANSWER ANY TWO QUESTIONS:**

**(2 X 20 = 40)**

18. Explain about the enzymes involved in DNA replication.
19. Describe in detail, the transcriptional control mechanisms in eukaryotes.
20. Write about the application of DNA sequencing.
21. Describe the gene organization in eukaryotes.

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