

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – MEDICAL LAB. TECHNOLOGY

SECOND SEMESTER – APRIL 2010

ML 2954 - ADVANCED LAB. TECHNIQUES

Date & Time: 21/04/2010 / 1:00 - 4:00

Dept. No.

Max. : 100 Marks

Answer **ALL** the questions.

PART – A

10 x 2 = 20 Marks

1. What are the steps in gene cloning?
2. What are isochizomers?
3. Define antisense gene.
4. How is annealing temperature calculated?
5. Define gene therapy.
6. What is the importance of transgenic animals?
7. What is a hybridization probe?
8. Define isoenzymes.
9. What are homologous probes?
10. What is palindromic symmetry?

Answer any **FOUR** questions.

PART – B

4 x 10 = 40 Marks

11. What are restriction enzymes? Explain the types and their applications.
12. Write short notes on cosmids and minichromosomes.
13. Write briefly on yeast two hybrid assays.
14. Explain the methods of introducing a foreign gene into mice.
15. Write briefly on Y chromosome analysis.
16. Explain transgenesis in larger animals.

Answer any **TWO** questions.

PART – C

2 x 20 = 40 Marks

17. Explain PCR in detail. Add a note on its applications.
18. Write a detailed account on blotting techniques.
19. Explain *ex vivo* gene therapy with examples.
20. Explain the production of recombinant insulin, recombinant hGH and clotting factor.
