



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

FIFTH SEMESTER – APRIL 2019

AZ 5520– GENETIC ENGINEERING

Date: 23-04-2019
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART A

ANSWER **ALL** questions, each in a few words **(10X2=20MARKS)**

1. What is restriction mapping?
2. Comment on amplification.
3. Write notes on adaptors and linkers
4. What are bacteriophages ?
5. What is a nucleic acid probe ?
6. What is electroporation ?
7. What is DNA screening?
8. What is a clone ?
9. Give examples of GMOs.
10. Distinguish between germline and somatic gene therapy.

PART B

ANSWER ANY **FOUR** questions, each in about two pages **(4X10=40 MARKS)**

11. Give an account of genome organization in eukaryotes.
12. Mention any five enzymes involved in Genetic engineering.
13. Explain any five physical methods of gene delivery.
14. Discuss the lytic and lysogenic cycle.
15. Describe the method of Southern Blotting.
16. Describe the role of genetic engineering in the environment.

PART C

ANSWER ANY **TWO** questions, each in about 4 pages **(2X20=40 MARKS)**

17. Give an account of molecular structure and function of DNA.
18. Mention the types of Cloning vectors and explain in detail
A) Plasmid and B) Cosmid
19. Explain the methods of selection, screening and analysis of recombinants.
20. Elaborate the following :
 - i) Genetically modified crops
 - ii) c DNA
 - iii) Socio ethical problems of genetic engineering
 - iv) Types of RNA
