

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



M.Sc. DEGREE EXAMINATION – ZOOLOGY

FOURTH SEMESTER – APRIL 2023

PZO 4502 – BIOTECHNOLOGY

Date: 03-05-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART A

Answer ALL the questions

(10×2=20 marks)

1. Differentiate between isoschizomers and neoschizomers.
2. What are linkers?
3. Comment on DNA microinjection.
4. Draw and label the structure of an *E. coli*-Yeast shuttle vector.
5. Define tissue engineering giving a suitable example.
6. Name any two animal cell culture media.
7. How can biofuels be produced?
8. What is meant by microbial bioremediation?
9. Enlist any two ethical issues concerning genetically modified organisms.
10. Expand the following: (i) VNTR (ii) SNP.

PART B

Answer any FOUR questions

(4×10=40 marks)

11. Explain the screening of libraries using colony hybridization and colony immunoassay.
12. Describe the bacteriophage lambda vector.
13. Discuss the procedure for establishing primary cultures of animal cells.
14. Write a note on microbial biopolymers.
15. Explain how biotechnology can be used for environmental applications.
16. Enlist any ten points to be considered while designing PCR primers.

PART C

Answer any TWO questions

(2×20=40 marks)

17. Discuss the procedures for creation of genomic and cDNA libraries.
18. Describe mammalian cell expression vectors and their important features required for high-level transgene expression.
19. Explain the different methods used for production of transgenic mice.
20. Give an account of the applications of biotechnology in the healthcare industry.

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