

**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. Define cellular senescence.
2. What is meant by genetic engineering?
3. Draw and label the different parts of a plasmid vector.
4. State the importance of cryoprotectants.
5. Distinguish finite from continuous cell line.
6. What is bioventing?
7. Expand: (i) VNTR (ii) STR
8. Comment on pharming.
9. Give the applications of (i) DNA ligase (ii) Reverse transcriptase
10. What are single cell proteins? Give an example.

**PART B**

**Answer any FOUR questions**

**(4×10=40 marks)**

11. Describe the steps in recombinant DNA technology.
12. Explain the procedure for Southern blotting.
13. Write a note on transgenic animals.
14. Describe briefly the different types of bioreactors.
15. Discuss in detail any five ethical issues in genetic engineering.
16. Give an account of the medical applications of biotechnology.

**PART C**

**Answer any TWO questions**

**(2×20=40 marks)**

17. Write a detailed note on cryopreservation.
18. Describe the procedure for *in vitro* fertilization.
19. Explain the principle, procedure and applications of polymerase chain reaction.
20. Discuss the environmental and agricultural applications of biotechnology.

**\$\$\$\$\$\$**

