

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – ZOOLOGY

FOURTH SEMESTER – APRIL 2010

ZO 4811 - BIOTECHNOLOGY

Date & Time: 20/04/2010 / 9:00 - 12:00 Dept. No.

Max. : 100 Marks

PART – A

Answer **ALL** the questions.

10 x 2 = 20 Marks

1. State the application of collagenase.
2. Mention any four microbes used in bioleaching.
3. Distinguish molecular marker from molecular probe.
4. Differentiate microfiltration from nano filtration.
5. What are shuttle vectors?
6. What is the latest about Bt-bringal?
7. Distinguish allogenic from autogenic stem cells
8. Illustrate PBR 322
9. How do you design genes? Name any two regions of a gene
10. Expand SV40 and SCID.

PART – B

Answer any **FOUR** questions.

4 x 10 = 40 Marks

11. What are the tools and techniques used in bioleaching?
12. Illustrate the methodology of DNA finger printing.
13. Propose a method for gene replacement therapy using specific example.
14. Elucidate the concept of bioremediation towards petroleum degradation.
15. How do you resort to foetal thymus organ culture from stem cells?
16. Tabulate the differences among type I, II and III restriction endonucleases with their significance.

PART – C

Answer any **TWO** questions.

2 x 20 = 40 Marks

17. Design a bioreactor by incorporating the principle of separation and purification of a microbial product
18. What are strategies involved in the production of polyclonal antibodies? State the application areas in this context?
19. Evaluate the trends in biosafety in the light of IPR, IPP and WIPO
20. (a) Examine the concept of enzyme technology in view of immobilization and its significance.
(b) How are biomining process engineered?
