 LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

 **M.Sc.** DEGREE EXAMINATION - **ZOOLOGY**

FOURTH SEMESTER – APRIL 2012

# ZO 4811 - BIOTECHNOLOGY

 Date : 20-04-2012 Dept. No. Max. : 100 Marks

 Time : 1:00 - 4:00

 **SECTION – A**

**Answer ALL questions:** (10×2= 20)

01. Distinguish event specific from construct specific detection of GMO.

02. Name any four restriction enzymes.

03. Sketch PBR 322

04. Comment on golden rice and azolla.

05. Define nutrigenomics.

06. State the significance of knockout mice and suicide gene therapy.

07. Distinguish morphological markers from biochemical markers.

08. What do you know about Integria?

09. Define downstream processing

10. Expand: a) DMSO b) WIPO

**SECTION – B**

**Answer any FOUR questions briefly:** (4×10= 40)

11. How do you create transgenic animals using the provision of microinjection

 and embryonic stem cells?

12. Draft a protocol for cryopreservation and add its applications.

13. How do you immobilize enzymes? Mention its significance.

14. State the properties of restriction recognition sites

15. Illustrate direct and cell based delivery system towards gene therapy.

16. What are the challenges in DNA computing?

**SECTION – C**

**Answer any TWO questions in detail:**(2×20= 40)

17. Illustrate nucleic acid hybridization and DNA finger printing techniques.

18. Describe any four methods of cloning with vector

19. Propose a design of conventional bioreactor with all their components and

 explain its implications in bioprocessing.

20. Highlight on : a) Risks of IVF and infertility therapy and

 b) Risks of Biotechniques.

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