LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – ZOOLOGY

FOURTH SEMESTER – **APRIL 2014**

ZO 4812 - BIOTECHNOLOGY

Date : 27/03/2014   Dept. No.   Max. : 100 Marks
Time : 01:00-04:00

Part-A

Answer ALL the questions   (10×2=20 Marks)

1. Define Genetic algorithm.
2. Distinguish GENE BANK from GEN BANK.
3. State the significance of Geobacter.
4. Outline the principle of microarray.
5. Compare ramification and putrification.
6. What are shuttle vectors and sucide genes ?
7. Relate F-plasmid with R-plasmid.
8. What are orthogonalimics ?
9. How to determine LOD score? Mention its significance.
10. Expand : a) LSAR   b) MALDI.

Part-B

Answer any FOUR questions   (4×10=40 Marks)

11. How to perform DNA finger printing ? State its applications.
12. What are the means of deciphering bioinformatics for Biotechnology ?
13. Examine the mechanism of transposition along with its significance.
14. What are the tools to study proteomics using mass spectrometer ?
15. Describe any two methods of protein sequencing.
16. Propose a molecular modelling for drug designing.

Part-C

Answer any TWO questions   (2×20=40 Marks)

17. Discuss the principle and applications of DNA nanomachine and DNA Computing.
18. How are bioreactors designed? Examine fermentation process with a flow chart and describe the biosynthesis of penicillin.
19. Elucidate the implication of nanobiotechnology towards cancer therapeutics and mechanics of immunotoxin drug delivery system.
20. Highlight on :   a) Molecular markers
               b) RT-PCR
               C) Enzyme immobilization
               d) Cori cycle.

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