LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **ZOOLOGY**

FOURTH SEMESTER – **APRIL 2016**

ZO 4812 - BIOTECHNOLOGY

Date: 18-04-2016 Dept. No. Max. : 100 Marks
Time: 09:00-12:00

PART – A

Answer all the questions in 50 words each **[10 × 2 = 20]**

1. Define Genetic Algorythm
2. What do you know about optogenetics?
3. Distinguish Molecular modeling and homology modeling
4. What are the steps involved in anaerobic suspended growth treatment?
5. How do butterfly and shark inspire bionanotechnology?
6. What do you know on Monod Kinetics?
7. State the significance of knockout mice
8. Compare DNA transposons with RNA transposons
9. What is the principle being used in nanobiometrics?
10. Expand (a) HPLC (b) FISH

PART – B

Answer any four questions in 600 words **[4 × 10 =40]**

11. Describe any two nanobiotechnological methods of gene transfer
12. Examine any five means of deciphering bioinformatics for biotechnology
13. Examine the principle and application of microarray technology
14. How do you make an obscure concept a reality in terms of bioelectronics?
15. Propose a protocol for the production and purification a recombinant protein using Mammalian cell expression system
16. How do you produce a transgenic fish?

PART - C

Answer any two questions in 1200 words **[2 × 20 =40]**

17. Propose a bioprocess technology for a product of human welfare in terms of upstream, downstream and midstream processes
18. Elucidate the strategies behind 'RNA processing, editing, transporting, translational and post-translational controls
19. How are induced pluripotent stem cells and hematopoietic stem cells created? State their applications
20. Evaluate the steps involved in the production and purification of secondary metabolites from phytosources using suspension culture.

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