



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – ZOOLOGY

THIRD SEMESTER – NOVEMBER 2014

ZO 3950 – GENOMICS, METAGENOMICS & EPIGENETICS

Date : 07/11/2014

Dept. No.

Max. : 100 Marks

Time : 09:00-12:00

Part-A

Answer ALL the questions:

(10×2=20 Marks)

1. Comment on Pluripotent stem cell.
2. Define contig.
3. What is heteroplasmy?
4. Distinguish between 'Genomics from proteomics.
5. State the significance of bioinformatics.
6. Write down the function of 16s rDNA.
7. What is Hapten?
8. Comment on 5– Azacytosine.
9. What is Phytostabilization?
10. Comment on introns and exon.

Part-B

Answer any FOUR questions:

(4×10=40 Marks)

11. Discuss the impact and process of acid mine drainage.
12. How does DNA Methylation results in transcriptional repression in mammals?
13. Explain the principle, procedure and application of DNA Microarray.
14. Write notes on different process of phytoremediation process.
15. Describe Stem cell differentiations and application.
16. What is epigenetics? How does epigenetics affect genes and cause cancer?

Part-C

Answer any TWO questions:

(2×20=40 Marks)

17. Nuclear transplantation and epigenetic reprogramming- Elaborate.
18. Describe how fluorescent *in situ* hybridization technique is used to eukaryotic genomes.
19. Write an essay on Human genome projects.
20. Explain the types of bioinformatics tools and their application.
