

Reg. No. ....

Name: .....

**M. Sc DEGREE END SEMESTER EXAMINATION APRIL 2016**

**SEMESTER: 2, ZOOLOGY**

COURSE: P2ZOOT06 - GENETICS AND BIOINFORMATICS

*(Common for Regular- 2015 Admission /Supplementary-2014 Admission)*

Time: Three Hours

Maximum Marks: 75

**PART A**

(Answer **any eight** questions. Each carries **2** marks)

1. Co dominance
2. C-Value Paradox
3. What are introns? Give any two significances
4. Tautomeric Shift
5. Define karyotype
6. Write down the features of mitochondrial genes
7. Define epigenetic
8. Any four applications of Bioinformatics
9. Gap penalty
10. Microarray
11. What is functional genomics?
12. Synthetic Biology

(2 x 8 = 16)

**PART B**

(Answer **any seven** questions. Each carries **5** marks)

13. Explain penetrance and expressivity with suitable examples
14. Describe nucleosome model
15. Explain Holliday model of recombination
16. Give a brief account on DNA Repair mechanisms
17. Explain Pedigree analysis
18. Explain the process of gene silencing by citing Drosophila as example
19. Write down a short account on Quantitative traits

20. Briefly explain sequence alignment
21. How bioinformatics acts as a tool for evolutionary studies?
22. Give a short account on genomics (5 x 7 = 35)

### PART C

(Answer **any two** questions. Each carries **12** marks)

23. Trace the development of the concept of gene function and structure .Add a note on modern findings on the nature of gene
24. Write an essay on genetic mapping by citing suitable example
25. Give a detailed account on replication of DNA
26. Write an essay on Biological databases (12 x 2 = 24)