

**M. Sc DEGREE END SEMESTER EXAMINATION - MARCH 2020****SEMESTER 2 : ZOOLOGY****COURSE : 16P2ZOOT06 : GENETICS AND BIOINFORMATICS**

*(For Regular - 2020 Admission & Supplementary 2019/2018/2017/2016 Admissions)*

Time : Three Hours

Max. Marks: 75

**PART A****Answer any 8 (2 marks each)**

1. What is Pleiotropy?
2. What is Nucleosome model of chromosome model?
3. What are Retroposons?
4. What are Molecular markers?
5. What is Gain of function mutation?
6. What is Narrow sense heritability?
7. What is Gene silencing?
8. What is Phenotypic plasticity?
9. What is meant by data curation?
10. Differentiate between Local alignment and Global alignment.
11. What is KEGG?
12. What is meant by metabolome?

**(2 x 8 = 16)****PART B****Answer any 7 (5 marks each)**

13. Sex determination in animals
14. Brief on mini and micro satellites
15. Brief on DNA structure and a brief account on alternative forms
16. Brief on Holliday model of recombination
17. Explain briefly on pedigree analysis
18. Comment on maternal inheritance with examples
19. Explain Protein structure databases.
20. Write notes on phylogeny constructing programs.
21. Explain the principle behind DNA Microarray.
22. Define and discuss the new trends in Systems Biology

**(5 x 7 = 35)****PART C****Answer any 2 (12 marks each)**

23. Explain epigenetics in Drosophila
24. Describe transposable elements.
25. Discuss on molecular structure databases.
26. Give a detailed description of major bioinformatics databases.

**(12 x 2 = 24)**