Reg. No ..... Name **19P2022**

MSc DEGREE END SEMESTER EXAMINATION - MARCH/APRIL 2019

SEMESTER 2 : ZOOLOGY

COURSE : **16P2ZOOT06 : GENETICS AND BIOINFORMATICS**

(For Regular – 2018 Admission and Supplementary – 2017/2016 Admissions)

Time : Three Hours Max. Marks: 75

Section A
Answer any 8 (2 marks each)

1. C-value paradox
2. Retrotransposons
3. Stern's experiment
4. Lethal mutation
5. Rolling circle replication
6. Chloroplast genes
7. What is BankIt?
8. Which are the two basic methods used in the construction of phylogenetic trees?
9. Define gap penalty.
10. What is the use of BLAST?
11. What is the purpose of DNA Microarrays?
12. What is meant by metabolome?

(2 x 8 = 16)

Section B
Answer any 7 (5 marks each)

13. Sex limited and sex influenced characters in humans
14. Brief on nucleosome model
15. Brief on interrupted genes in eukaryotes
16. Mapping with molecular markers.
17. What is histone code hypothesis?
18. Brief on epigenetics of yeast
19. Briefly describe temperature dependant plasticity.
20. Discuss the role of molecular structure databases in modern research.
21. Write notes on Protein structure databases.
22. What is the importance of a scoring matrix in inferring molecular phylogeny?

(5 x 7 = 35)

Section C

Answer any 2 (12 marks each)

23. Comment on unique and repetitive sequences with a mention on satellites.
24. Describe the fine structure of DNA with a mention on its alternative forms.
25. Describe the molecular organization of chromosomes
26. Give the methodology of deciphering evolutionary relationships from molecular sequence data.

(12 x 2 = 24)