

Reg. No

Name

23P2022

M. Sc. DEGREE END SEMESTER EXAMINATION : MARCH 2023

SEMESTER 2 : ZOOLOGY

COURSE : 21P2ZOOT06 : GENETICS AND BIOINFORMATICS

(For Regular - 2022 Admission and Supplementary - 2021 Admission)

Duration : Three Hours

Max. Weights: 30

PART A

Answer any 8 questions

Weight: 1

1. R-banding is the reverse of G-banding. Comment. (An, CO 5)
 2. What is Maternal inheritance? (U)
 3. What is PEV? (U)
 4. What is Expressivity? (U)
 5. What is Telomere? (U)
 6. What is Loss of function mutation? (U)
 7. Explain BankIt. (R)
 8. Differentiate between Orthologous and Paralogous sequences (An, CO 7)
 9. Explain any two phylogenetic analysis programs? (R, CO 7)
 10. What are DNA Microarrays? (R)
- (1 x 8 = 8)**

PART B

Answer any 6 questions

Weights: 2

11. Explain briefly on pedigree analysis (U)
 12. Brief on mini and micro satellites (U)
 13. Brief on eukaryotic transposable elements (U)
 14. What is Complementation test? (U)
 15. What is meant by Annotation? Explain its importance (U, CO 7)
 16. What are the different methods for sequence alignment? Explain (R)
 17. Explain the procedure of Phylogeny inference from molecular sequence data. (U, CO 7)
 18. Explain data mining in proteomics. (U, CO 8)
- (2 x 6 = 12)**

PART C

Answer any 2 questions

Weights: 5

19. Elaborate on chromatin modifications and their mechanism of action. (U, CO 5)
 20. Brief on epigenetics of yeast (U)
 21. Elaborate on the data types and organization of major biological databases (E)
 22. Explain the methodology of deciphering evolutionary relationships from molecular sequence data. (U, CO 7)
- (5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 5	Develop the concepts of Human Genetics, Extra-chromosomal Inheritance, Epigenetics, Quantitative and Population Genetics	U	1, 19	6
CO 7	Interpret the idea of sequence similarity search and sequence analysis methodology	U	8, 9, 15, 17, 22	11
CO 8	Analyse the basic ideas of Genomics, Proteomics, systems biology and metabolomics	An	18	2

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;