UPES
End Semester Examination, May 2024

Course: B. Sc. MICROBIOLOGY, B. Sc. FN&D   Semester   : II
Program: Computer Application & Bioinformatics   Duration   : 3 Hours
Course Code: HSCC1028   Max. Marks: 100

Instructions: Attempt all the sections.

S. No.	**Section A** Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q1.	Define the term global alignment.	1.5	CO1
Q2.	Define the term hardware.	1.5	CO1
Q3.	List any three physiochemical properties that influence drug action.	1.5	CO2
Q4.	Who is known as the "father of evolution?"	1.5	CO1
Q5.	Write the names of three operating system.	1.5	CO2
Q6.	The two types of sequence alignment are___and___.	1.5	CO1
Q7.	Draw the chemical structure of Cimetidine.	1.5	CO2
Q8.	Write the names of three sequence databases.	1.5	CO2
Q9.	Define the term molecular dynamics.	1.5	CO1
Q10.	Define the term pharmacokinetics.	1.5	CO1
Q11.	The double helix model of DNA was given by_____.	1.5	CO2
Q12.	A lead compound is _____.	1.5	CO2
Q13.	Define the term cladogram.	1.5	CO1
Q14.	Write the names of three base pairs.	1.5	CO1
Q15.	The human genome project was started to_____.	1.5	CO1
Q16.	Write the full form for HBA.	1.5	CO1
Q17.	Write the names of three chemistry databases.	1.5	CO2
Q18.	PDB stands for_____.	1.5	CO2
Q19.	Define the term nucleotide.	1.5	CO1
Q20.	Unrooted trees are____.	1.5	CO1
Section B (4Qx5M=20 Marks)			
Q1.	Write in detail about the steps involved in the construction of a phylogenetic tree?	5	CO3

Q2.	Define the RO5.	5	CO4
Q3.	Discuss the in-silico areas of bioinformatics?	5	CO3
Q4.	How do you define a lead compound in relation to drug discovery?	5	CO3
Section C (2Qx15M=30 Marks)			
Q1.	Define molecular docking. What are the various steps involved in molecular docking?	15	CO5
Q2.	Write a detailed note on PDB.	15	CO5
Section D (2Qx10M=20 Marks)			
Q1.	Write a note on homology modelling.	10	CO4
Q2.	Discuss in detail about the various types of alignment methods.	10	CO4