

School of Biological and Life sciences

**Master of Science in Zoology
Semester End Examination - Jun 2024**

**Duration : 180 Minutes
Max Marks : 100**

Sem II - P1PN207B - Computational Biology and BioinformaticsGeneral Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) What is the KEGG database. Explain its importance in research? K1(2)
- 2) Write an Abstract on role of bioinformatics in protein classification. K2(4)
- 3) Describe the process of drug designing, highlighting the steps involved in the identification and optimization of lead compounds for potential therapeutic targets. K2(6)
- 4) Explain the concept of Internet domains and the role of Domain Name System (DNS) in translating domain names into IP addresses. K3(9)
- 5) Explain the significance of GenBank, EMBL, and DDBJ in the context of global nucleotide sequence data exchange and research collaboration. K3(9)
- 6) Write full Form of OMIM, CATH, ENTREZ, SCOP. K5(10)
- 7) With the help of algorithm used , find out the Global alignment for sequences for 1. ACCGT 2. ATTGC (SCORE: Gap+4 , Match +1 , Mis match -1) K4(12)
- 8) What are the fundamental components of bioinformatics? K5(15)
- 9) Discuss the role of metabolic pathways in diseases and how understanding these pathways can lead to the development of therapeutic interventions and targeted drugs. K5(15)
- 10) With the help of algorithm used , find out the Global alignment for sequences for 1. AATGCCGT 2. ATTCCCGC (SCORE: Gap+2 , Match +1 , Mis match -1) K6(18)