

Question Paper

Exam Date & Time: 17-May-2024 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Bioinformatics and Computational Biotechnology [PBT-MPB203T -S1]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Citing suitable examples, describe different types of mutations. Add a note on phenotypic modifications. (10)
- 2) Cell cycle checkpoints are crucial for ensuring proper cell division. Discuss the specific cellular events monitored at each major checkpoint and the potential consequences of checkpoint failure. Explain what is the importance of mid-blastula transition stage? (10)
- 3) Briefly outline the hallmarks of Cancer. (10)
- 4) Discuss the steps involved in developing a point accepted mutation (PAM) scoring matrix. (10)
- 5) Enlist various secondary structure prediction tools and discuss Chou and Fasman method employed for protein secondary structure prediction. (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Write a short note on mitochondrial DNA. (5)
- 7) Carcinogenesis is a multistep process. Describe. (5)
- 8) Define biological database and write a note on importance and characteristics of databases. (5)
- 9) Define sequence alignment and enlist any three differences between global alignment and local alignment. (5)
- 10) Name the two datasets in UniprotKB and distinguish the two datasets employed in UniprotKB. (5)

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