

Exam Date & Time: 18-Jul-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

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

**Bioinformatics and Computational Biotechnology [PBT-MPB203T]**

**Marks: 75**

**Duration: 180 mins.**

### SECTION - A

**Answer all the questions.**

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

- 1) Classify mutations. Citing suitable examples and methods, discuss detection of bacterial mutants by positive selection and negative selection. (10)
- 2) What is apoptosis? Give an account on its biological significance. Describe the pathways of apoptosis. (10)
- 3) What are second messengers? What are their roles in cell signalling? Discuss the IP3/DAG pathway and explain how it regulate the intracellular calcium ion concentration. (10)
- 4) Explain how to develop a point accepted mutation (PAM) scoring matrix. (10)
- 5) Discuss target identification and target validation in the early drug discovery process. (10)

### SECTION - B

**Answer all the questions.**

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

- 6) Briefly outline the different post translational processing in eukaryotes. (5)
- 7) What is the biological significance of ubiquitination? Outline the steps involved in ubiquitination. (5)
- 8) Write a note on the gene prediction in microbial genomes. (5)
- 9) Distinguish between the primary database and the secondary database with suitable examples. (5)
- 10) Write a brief note on the Chou and Fasman method employed for protein secondary structure prediction. (5)

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