Exam Date & Time: 11-Sep-2021 (02:00 PM - 05:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal College of Pharmaceutical Sciences, Manipal

MPharm Theory End-Semester Examinations.

Principles of Drug Discovery [PHA-MPL203T]

Marks: 75   **Duration: 180 mins.**

SECTION - A

Answer all the questions.

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

1)   Discuss the basic concept of bioinformatics. Examine the various databases for bioinformatics
       applications.   (10)

2)   With examples, discuss the importance of protein structure in modern drug discovery. Explain the
       methods involved in protein structure predictions   (10)

3)   Differentiate traditional drug discovery and rational drug discovery. With examples, discuss the
       methods involved in rational drug design   (10)

4)   Describe the methods in molecular docking using computational programs in drug discovery. Discuss
       its advantages over other methods of drug discovery.   (10)

5)   In the prodrug development, how could we make use of carrier linked and bio-precursor approaches?
       Explain with examples.   (10)

SECTION - B

Answer all the questions.

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

6)   In Parkinson's disease, alpha-synuclein is a new target for drug discovery. Analyse the process of
       identification of alpha-synuclein as a drug target.   (5)

7)   What are the applications of NMR and X-ray crystallography in drug discovery   (5)

8)   What is virtual screening? Discuss different techniques of virtual screening with example.   (5)

9)   Describe protein preparation using Maestro Schrodinger.   (5)

10)   Discuss the workflow of QSAR studies.   (5)

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