GALGOTIAS UNIVERSITY

ADMISSION NUMBER

School of Medical and Allied Sciences

Master of Pharmacy in Pharmacology
Semester End Examination - Jun 2024

Duration : 180 Minutes
Max Marks : 75

Sem II - MPL203T - Principles Drug Discovery

General 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)	Explain how does regression analysis contribute to Quantitative Structure-Activity Relationship (QSAR) studies, and what are its key characteristics?	K2(2)
2)	Explain the concept of high throughput screening and its role in the lead identification process.	K2(2)
3)	List out the advantages of docking-based screening in identifying lead compounds?	K1(2)
4)	Explain about computational methods of threading in predicting protein structure.	K2(2)
5)	List out some physicochemical parameters play in QSAR studies?	K1(2)
6)	Explain the X-ray crystallography contribute to the prediction and determination of protein structure?	K2(2)
7)	List out the differences between SAR (Structure-Activity Relationship) and QSAR.	K1(2)
8)	Explain NMR contribution to the prediction and determination of protein structure?	K2(2)
9)	List out the primary objectives of lead optimization in the drug development pipeline?	K1(2)
10)	List out the applications of nucleic acid microarrays in drug discovery.	K1(2)
11)	Identify the cost-effective strategies to be implemented in drug discovery to optimize economic outcomes?	K3(5)
	OR	
	Identify the challenges which might arise in the application of antisense oligonucleotides in drug discovery?	K3(5)
12)	Identify the process and significance of docking-based screening in	K3(5)

drug discovery

13)	Simplify the principle behind partial least square analysis (PLS) in QSAR studies and compare it with other multivariate statistical methods in terms of predictive power and interpretability.	K4(5)
14)	Identify the principles and differences between rigid docking, flexible docking	K3(5)
15)	Simplify how organ-on-a-chip technologies contributing to drug discovery and development?	K4(5)
16)	Analyze the strengths and weaknesses of ligand-based approaches method in the context of drug development.	K4(5)
	OR	
	Analyze briefly about the advantages and limitations of approaches in the drug discovery process.	K4(5)
17)	Simplify about role of virtual screening and molecular docking in this context.	K4(5)
18)	Eleborate on key considerations in designing robust assays for screening compound libraries.	K6(10)
19)	Determine the principles and applications of regression analysis in QSAR studies, comparing its effectiveness with partial least square analysis (PLS) and other multivariate statistical methods	K5(10)
	OR	
	Determine the concept of docking-based screening in drug discovery, outlining the steps involved and the role it plays in identifying potential drug candidates	K5(10)