

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS-2022

MSc-IV Semester (BT)

COURSE CODE (CREDITS): 20MSWBT432(2)

MAX. MARKS: 35

COURSE NAME: Drug Discovery and Development

COURSE INSTRUCTORS: Dr. Udayabanu

MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

1. Drug development starts with preclinical evaluation. What kind of impact does absorption, distribution, metabolism toxicity have on drug discovery? Discuss with some examples.[5Marks]
2. Does selection of animal models a critical factor in drug screening and development process? Justify. How would you design an experimental study while screening for an anti-diabetic drug development. [5Marks]
3. Consider a situation where you own an organisation and are in the process of drug manufacture. What kind of documentation process is necessary? Explain with regard to Good Manufacturing Practice and Certificate of Analysis. [5Marks]
4. Design a clinical study for a drug that is proposed to be used for the management of diabetes. How would you proceed from phase I clinical study to phase IV clinical study? Explain the parameters that should be consider. [5Marks]
5. Differentiate Investigational New Drug and New Drug Application. What type of regulatory body is involved in IND/NDA approval? Briefly explain the process involved. [5 Marks]
6. Designing a drug that resembles the transition state for the catalysed reaction might have a strong inhibitory effect. Explain with an example how an enzyme could be target. [3 Marks]
7. How would you synthesize drug like molecules using Combinatorial library. Explain with suitable example.[2 Marks]
8. If Benzene has a logP value of 2.13. The π value for aliphatic substituent of Chlorine is 0.39. The π value for aromatic substituent hydrophobic value of Chlorine is 0.71. The π value for $-\text{CONH}_2$ is -1.49. Calculate the logP value of the following [5 Marks]
 - (a) Chlorobenzene
 - (b) Dichlorobenzene
 - (c) Meta- Chlorobenzamide
 - (d) Ortho-Chlorobenzamide
 - (e) Benzamide