JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

T3 EXAMINATION- 2024

MSc-IV Semester (BT)

COURSE CODE(CREDITS): 20MSWBT432 (2)

MAX. MARKS: 35

COURSE NAME: Drug Discovery & Development

COURSE INSTRUCTORS: Dr. Udayabanu

MAX. TIME: 2 Hours

Note: (a)All questions are compulsory.

(b)Marks are indicated against each question in square brackets.

(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

1. Design a strategy and method for evaluating the following research question during preclinical studies.
   a. Steps and protocols used to evaluate a drug for its memory enhancing property using animal models [5 Marks]
   b. Steps and protocol used to evaluate a drug for its anti diabetic property using animal models [5 Marks]

2. How would you plan a clinical study? Explain the parameters that should be addressed while designing an unbiased clinical study [5 Marks]

3. Utilize in-silico steps involved in the drug discovery process to screen and identify a lead molecule. Emphasize on QSAR and Molecular docking [5 Marks]

4. Explain the mechanism of Colchicine and Taxol . How they work differently on the same target and execute similar biological effect. [5 Marks]

5. Write a note on following terms with example:
   a. Suicidal substrates [2 Marks]
   b. Antisense therapy [2 Marks]
   c. Competitive inhibitors [2 Marks]
   d. Control of gene expression [2 Marks]
   e. Hansch QSAR [2 Marks]