[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7938 **L**

Unique Paper Code : 2173550011

Name of the Paper : DSE-Fundamentals of Medicinal Chemistry

Name of the Course : **B.Sc. (Prog.)**

Semester : VIII

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** questions in all.
3. **All** questions carry equal marks.
4. Attempt all parts of the questions together.

1. (i) Define the half-life of a drug.

   (ii) Explain the significance of in silico screening.

   (iii) What are pre-clinical trials of a drug?

   (iv) Explain the importance of the hydrophilic -hydrophobic balance in drugs.

   (v) Define and explain prodrugs with suitable examples. (3×5)

2. (i) Define drug targets and explain any one method of target identification.

   (ii) Describe the stages of drug discovery briefly.

P.T.O.

(iii) What is the difference in metabolic and chemical stability of the drug? (5×3)

3. (i) Define partition coefficient. How is it determined?

(ii) Describe Phase II metabolism and its major reactions.

(iii) Write a short note on applications of bioinformatics in medicinal chemistry. (5×3)

4. (i) Explain the relationship between drug structure and biological activity?

(ii) Differentiate between phase II and phase III clinical trials.

(iii) How is drug toxicity evaluated? (5×3)

5. Short notes on the following (Any **three**) :

(i) Drug Response curve.

(ii) Computational tools in drug designing.

(iii) Lead optimization.

(iv) Natural sources of drugs. (5×3)

6. (i) Write the structure, describe synthesis and uses of penicillin V.

(ii) Discuss the structure and therapeutic value of fluconazole.

(iii) Explain antiviral drugs and discuss the SAR of AZT. (5×3)