

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7858

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Unique Paper Code : 2173540017

Name of the Paper : 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** out of **six**.
3. **All** questions carry equal marks i.e. **15** marks.
4. Attempts **all** parts of the questions together.

- Q1 a) Discuss the different sources of drugs, highlighting the role of natural products.
b) Describe the stereochemical features of any two drugs with their significance.
c) Giving examples, differentiate between Pharmacokinetics and Physicochemical properties.

(5, 5, 5)

- Q2 a) Describe the role of functional groups in determining the structure-activity relationship (SAR) of drugs.
b) Discuss the historical evolution of medicinal chemistry and its significance.
c) Enlist the various stages of drug discovery.

(5, 5, 5)

- Q3 a) Describe the different phases of drug metabolism.
b) Discuss drug excretion and the half-life of drugs, with suitable examples.
c) Explain how solubility and log P are important for a drug?

(5, 5, 5)

P.T.O.

Q4 Write short notes on any three of the following

- (i) Clinical trials
- (ii) Synthesis of Isoniazid
- (iii) Virtual screening of drug molecules
- (iv) Hit identification

(3x5)

Q5 a) Give a synthetic method and therapeutic value of Azidothymidine.

b) What are the key approaches in Target Identification?

c) Differentiate between Random and systematic screening, with suitable examples.

(5, 5, 5)

Q6 a) Write the structure of penicillin G and penicillin V.

b) Describe the drug design process using computational techniques.

c) What is a pharmacophore? What are its properties to be a molecule act as a pharmacophore?

(5, 5, 5)