

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7879

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Unique Paper Code : 2493010016

Name of the Paper : Pharmacology and Toxicology (DSE)

Name of the Course : B.SC. (HONS.) BIOCHEMISTRY (NEP)

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. There are 6 Questions.
3. Attempt any 4 questions. All questions carry equal marks.
4. **Question no. 1** is compulsory

1A. Justify the following statements (*any 5*)

- i. Drugs administered intravenously have 100% bioavailability.
- ii. Lipid soluble drugs are more easily absorbed in the body than water soluble drugs.
- iii. Liver is the major site for drug metabolism.
- iv. Long term use of NSAIDs has side effect of gastric irritation and gastric ulcers.
- v. Blood pressure lowering drugs like Telmisartan do not cause dry cough whereas Ramipril does.
- vi. Acid blocker Omeprazole is considered as a prodrug.

B. Define the following terms:

- i. Distribution volume
- ii. Bioaccumulation
- iii. Analgesics
- iv. Pharmacology
- v. Beta blocker

(10, 5)

2A. Describe the various routes of drug administration with their advantages and disadvantages.

B. How do agonist and antagonist drugs act on receptors? Explain with suitable examples.

C. Therapeutic index is a quantitative measure of drug safety. Justify the statement.

(7, 5, 3)

P.T.O.

- 3A. Describe the mechanism of warfarin as an anticoagulant. How does it differ from the action of heparin?
- B. How does Paracetamol relieve pain without significant anti-inflammatory action?
- C. Define biological half-life of drugs and explain its significance in pharmacology. (6, 5, 4)

- 4A. State the differences between pharmacodynamics and pharmacokinetics.
- B. Describe the action of Syndopa as a drug used to treat central nervous system related disorders. Why does a patient treated with Syndopa show involuntary movements?
- C. Name any two anti-cancer drugs. Why do anticancer drugs lead to alopecia? (5, 5, 5)

- 5A. Write short notes on the following:

- i. In silico Drug Design
- ii. Heavy metal poisoning
- iii. Role of diuretics as renal function drugs
- iv. Drug-drug interactions
- v. Various sources of drugs with examples

(15)

- 6A. Explain the mechanism of action, therapeutic uses, and side effects of Rivastigmine.
- B. Lipid-lowering drugs such as Atorvastatin are essential in managing cardiovascular diseases. Explain the given statement.
- C. A 55-year-old patient with hypertension is prescribed anti-hypertensive medication. After a few days, the patient complains of shortness of breath and wheezing. Name the prescribed drug and its mechanism of action. What is the reason for the breathing difficulty? (6, 4, 5)