

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7202

K

Unique Paper Code : 2493010016

Name of the Paper : Pharmacology and Toxicology

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. Explain the following terms:

- (i) CADD
- (ii) Biological half life
- (iii) Therapeutic index
- (iv) Laxatives
- (v) Bioaccumulation
- (vi) Toxicology

B. Comment on the following:

- (i) Sedatives and hypnotics act on the central nervous system.
- (ii) Antacids provide symptomatic relief in hyperacidity.
- (iii) Drugs are preferably administered through parenteral route during emergency conditions.
- (iv) Sustained release drug formulations reduce the dosage frequency.

(9, 6)

2. Differentiate between:

- (i) General anesthetics and Local anesthetics
- (ii) Plasma protein bound drug vs Free drug
- (iii) Agonist and Antagonist
- (iv) Hydrophilic drugs and Lipophilic drugs
- (v) Pharmacokinetics and Pharmacodynamics

(15)

P.T.O.

- 3A. What role do enzymes play in detoxification? Explain using suitable examples.
- B. After undergoing abdominal surgery, Mohan is unable to urinate normally due to reduced bladder muscle contraction. The doctor prescribes a cholinergic drug, to stimulate bladder emptying. Within a few hours, normal urination resumes. Why was this particular class of drugs chosen? Explain using an example.
- C. Discuss the various factors affecting the distribution of drugs in the human body.

(5, 5, 5)

4. Discuss the pharmacological actions, therapeutic uses and adverse effects of the following drugs (*any 3*):

- (i) Propranolol
- (ii) Ranitidine
- (iii) Diazepam
- (iv) Lovastatin
- (v) Heparin

(15)

- 5A. Neha, a 28-year-old working professional, developed fever, body ache and headache during a viral infection. She started taking acetaminophen (paracetamol) tablets every 4 hours for quick relief without consulting a doctor. For two days, she consumed a dose higher than the recommended limit. After 48 hours, she experienced nausea, vomiting, abdominal pain and fatigue. The doctor diagnosed acetaminophen toxicity.

- (i) What type of drug is acetaminophen? Mention its therapeutic uses.
- (ii) Which organ is mainly affected in acetaminophen toxicity? Why?
- (iii) Which antidote is commonly used in acetaminophen poisoning and why?
- (iv) Which other class of drug can be used for similar therapeutic effect? Explain their mechanism with two examples.

- B. Discuss in detail about the various routes of administration of a drug.

(10, 5)

6. Write short notes on:

- (i) First pass metabolism
- (ii) Bioavailability
- (iii) Dose-response relationship
- (iv) Heavy metal poisoning
- (v) Xenobiotics

(15)

(200)