

6. (a) Discuss how drugs can act as toxicants even at therapeutic doses and the factors that contribute to their toxicity.
- (b) Differentiate between styrene and ethylene glycol in terms of their toxicity and routes of exposure.
(9,9)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4619

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Unique Paper Code : 3184001003

Name of the Paper : Toxic Substances and Human Health

Name of the Course : **GE- Biomedical Science (NEP-UGCF)**

Semester : **II/IV**

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll. No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all.
3. All questions carry **equal** marks.
4. Attempt subparts of a question **together**.
5. Draw illustrations or diagrams wherever necessary.

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1. (a) Define (Any Four) (2x4=8)

(i) NOAEL

(ii) First-pass metabolism

(iii) Toxicodynamics

(iv) Dose-Response Relationship

(v) Volume of Distribution

(b) Differentiate between the following (Any Four)

(2.5x4=10)

(i) LD₅₀ and TD₅₀

(ii) Absorption and Excretion of toxicants

(iii) Amatoxin and Muscarine

(iv) Bioavailability and Bioaccumulation

(v) Volatile organic compounds and Organophosphates

2. Explain the mechanism of toxicity of (Any Three)
(6x3=18)

(a) Carbon monoxide

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(b) DDT

(c) Methanol

(d) Mercury

3. (a) Explain the health risks of exposure to heavy metals like lead and cadmium in cosmetics and their potential effects on the human body.

(b) How do common household cleaners and disinfectants pose toxic risks to human health? Explain with suitable examples. (9,9)

4. (a) Explain the toxic effects of pyrethroid pesticides on human health and their mode of action.

(b) Describe the adverse health effects of synthetic food additives, including artificial sweeteners, preservatives, and colorants, with examples. (9,9)

5. (a) Discuss the health implications of environmental pollutants like dioxins and polycyclic aromatic hydrocarbons (PAHs) in humans.

(b) What is particulate matter (PM), and how does it impact human health, particularly the respiratory and cardiovascular systems? (9,9)

P.T.O.