

M.Sc Sem-3 Examination

502

Forensic Science (Fore Toxi)

Time : 2-30 Hours]

November-2024

[Max. Marks : 70

Ques.1 Answer the following questions:

- i. What are the procedures for preserving viscera and other biological samples in cases of suspected poisoning? 7Marks
- ii. Explain the classification of poisons based on their mode of action with examples. 7Marks

OR

- i. Describe the postmortem findings in cases of death due to poisoning. 7Marks
- ii. Discuss the fate of poisons in the human body and the role of the liver in detoxification. 7Marks

Ques.2 Answer the following questions:

- i. Explain any two modern techniques used for the extraction of poisons from different Matrices. 7Marks
- ii. Write a note on chromatography as a method for separation, identification and quantitation of toxins in forensic science. 7Marks

OR

- i. Explain solid phase extraction (SPE) and discuss its advantages 7Marks
- ii. Write a note on micro diffusion as an extraction method for volatile poisons. 7Marks

Ques.3 Answer the following questions:

- i. Discuss the toxic effects of methyl alcohol (methanol) on human health and describe the symptoms associated with methanol poisoning. 7Marks
- ii. Write a short note on Fox glove plant poison. 7Marks

OR

- i. What is deliriant poison? Discuss in detail about any one deliriant plant poison focusing on active principle, fatal dose & period, Postmortem appearances and Forensic analysis. 7Marks
- ii. Write a brief note on Chronic poisoning of Lead. 7Marks

Ques.4 Answer the following questions:

- i. What is enterohepatic circulation? Describe in detail the role of enterohepatic circulation in normal drug metabolism. 7Marks
- ii. Define the Pharmacokinetics (PK), list out different process involved in PK and describe in detail about the absorption of drug along with the classification of route for drug administration. 7Marks

OR

- i. Describe in detail about the Drug metabolism and list out different enzymes involve in Phase I and II biotransformation. 7Marks
- ii. Describe in detail the factors that modify the absorption in the gastrointestinal tract. 7Marks

Ques.5 Attempt any seven out of twelve.

14Marks

1. What is a fulminant poisoning?
2. What are chelating agents? Explain their role in treating metallic poisonings.
3. How route of administration and condition of stomach affect poison absorption?
4. What is the major advantage of the headspace technique used for the separation of volatile poisons?
5. What is sweep co-distillation?
6. List the factors affecting the choice of extraction method for a poison.
7. What are the postmortem appearances seen in case of CNS depressant poisoning?
8. Mention the 8 D's in datura poisoning.
9. What is the primary toxic metabolite of methyl alcohol (methanol) that causes its harmful effects?
10. Describe therapeutic window or margin with graph.
11. What is first pass effect?
12. Define Prodrug and active drug.
