

GUJARAT TECHNOLOGICAL UNIVERSITY
PHARM.D
4th Year

Subject Name: CLINICAL TOXICOLOGY
Subject Code: 848806

Scope: The course is designed to give students a background in the medical and toxicological principles of toxicants commonly encountered in poison control centers and emergency departments. The course enables the student to lend support in poison control centers, hospitals and emergency departments.

Objectives:

After the course the students shall have the necessary knowledge and understanding of

- 1) basic toxicology (including toxicokinetics) relevant for drugs,
- 2) principles for toxicological testing of new drugs
- 3) toxicological follow-up of drugs already in the market.
- 4) toxic drugs and chemicals, poisoning symptoms, treatments and antidotes.
- 5) Toxicity of substance of abuse

Teaching scheme and examination scheme:

Teaching Scheme				Evaluation Scheme				Total Marks
Theory	Tutorial	Practical	Total	Theory		Practical		
				External	Internal	External	Internal	
2	1	0	3	70	30	0	0	100

Detailed syllabus:

Sr.	Topic	Hr	% Weightage
1.	General principles involved in the management of poisoning	3	5
2.	Antidotes and the clinical applications	3	5
3.	Supportive care in clinical Toxicology	4	6
4.	Gut Decontamination.	3	5
5.	Elimination Enhancement	3	5
6.	Toxicokinetics	7	12
7.	Clinical symptoms and management of acute poisoning with the following agents – a) Pesticide poisoning: organophosphorous compounds, carbamates, organochlorines, pyrethroids. b) Opiates overdose. c) Antidepressants d) Barbiturates and benzodiazepines. e) Alcohol: ethanol, methanol. f) Paracetamol and salicylates. g) Non-steroidal anti-inflammatory drugs. h) Hydrocarbons: Petroleum products and PEG. i) Caustics: inorganic acids and alkali. j) Radiation poisoning	10	16
8.	Clinical symptoms and management of chronic poisoning with the following agents – Heavy metals: Arsenic, lead, mercury, iron, copper	5	8
9.	Venomous snake bites: Families of venomous snakes, clinical effects of venoms, general management as first aid, early manifestations, complications and snake bite injuries.	5	8
10.	Plants poisoning. Mushrooms, Mycotoxins	3	5

11.	Food poisonings	3	5
12.	Envenomations – Arthropod bites and stings.	3	5
13.	Substance abuse: Signs and symptoms of substance abuse and treatment of dependence a) CNS stimulants :amphetamine b) Opioids c) CNS depressants d) Hallucinogens: LSD e) Cannabis group f) Tobacco	8	15

Reference Books:

1. Matthew J Ellenhorn. Ellenhorns Medical Toxicology – Diagnosis and treatment of poisoning. Williams and Willkins publication, London Latesat edition
2. V V Pillay. Handbook of Forensic Medicine and Toxicology. Latest edition Paras Publication, Hyderabad
3. Marcus SM. Medical Toxicology: Antidotes and Anecdotes. Springer; latest edition.