

M.Sc. Semester-111(2017 -18)  
Paper( ELECTIVE ) : Environmental toxicology  
(\*In option for paper IV biotechnology\*)

Credit: 05  
Marks: 80+20=100

**Unit I**

Fundamental of toxicology . Definition and scope ,types of toxic substances, Dose response relationship ,xenobiotic metabolism : 1)absorption 2)distribution 3)metabolism 4)phase – I reaction and phase II reaction

**Unit II**

Types of exposure ,types of toxic response. Tissue specificity and organ specificity and organ specificity of toxicity (w.r.t. liver ,lungs, kidney) Diagnosis of toxic changes in liver changes in liver and kidney ,drugs as toxic substances metabolism of haloalkanes,haloalkenes and paracetamol with their toxic effects on tissue. Food toxicology :Role of diet of in cardio vascular disease and cancer ,Toxicology of food additives.

**Unit III**

Pesticides toxicology 1) Insecticide toxicology: orgnochlorines organophosphates , Carbamates 2)Herbicide toxicology paraquat, Metal toxicity :1) Arsenic 2) Mercury 3)lead 4) cadmium

**Unit IV**

Environmental pollution : Air pollution ,common air pollutants and their sources acid rain , ozone layer depletion water pollution.

**Unit V**

Toxicity by natural products: plant toxins, Animal Toxins, Microbial Toxins (Fungal and bacterial) Toxicity by household products: carbon monoxide ,Antifreeze ,Ethylene glycol, Alcohol. Toxicity testing ; Acute Toxicity Test, Sub Acute Toxicity Tests ,Chronic Toxicity Tests

**Suggested readings:**

1. Text book of veterinary Toxicology by H.S. sandhu ,R.S. Brar
2. Principles of Biochemistry Toxicology by Jone Trimbell
3. Introduction and Toxicology by B.K. Rao
4. Pharmacology and Toxicology by B. K. Rao.

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प्राचार्य

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