

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: B.Sc (Environmental Science)**  
**Semester: VI**  
**Syllabus with Effect from: November-2013**

<b>Paper Code: US06CENV02</b>	<b>Total Credit: 3</b>
<b>Title of Paper: Environmental Toxicology</b>	

Unit	Description in detail	Weightage (%)
I	<p><b>Ecotoxicology &amp; Occupational Toxicology</b></p> <p><b>Ecotoxicology</b> Introduction, Dispersal of Substances in the environment. Accumulation of substances by organisms, Effect on population and Ecosystem. Ecotoxicological risk assessment.</p> <p><b>Occupational Toxicology</b> Introduction, Role of the industrial toxicologist in occupational health care, exposure monitoring, Health Monitoring. Risk and risk factors. Legislation and standards in occupational toxicology.</p>	25%
II	<p><b>Industrial Hygiene and Safety</b></p> <p><b>Industrial hygiene:</b> Definition of hygiene, Industrial hygiene practices, role of industrial hygienist and scope, difference between industrial hygiene and occupational health, benefits of industrial hygiene, work co-ordination between industrial hygienist, safety officer and medical officer.</p> <p><b>Food and hygiene:</b> Food inspection, preservation of food, Microbiological and Chemical Standards, Food Storage, food poisoning and preventive measures, Food Protection Program Objective, Diet surveys.</p>	25%
III	<p><b>Metal Toxicology</b></p> <p>Metal pollutants in environment, Major routes of uptake, Toxicokinetics, Toxicity and Biochemical effect of Arsenic, Mercury (Minamata), Lead, Cadmium, Chromium, Fluoride, Cyanide.</p>	25%
IV	<p><b>Nutritional Toxicology:</b> Sources of potentially toxic substance in food. Food sources, Storage and transportation. Home storage and preparation, Modulating influence of nutrition on the toxicity of compounds, Standards for food additives.</p> <p><b>Medical and Clinical Toxicology:</b> Introduction, Intoxication as a cause of disease, acute intoxication, chronic intoxication.</p>	25%

**Basic Text & Reference Books:**

- Wilson & Gisvold's - Textbook of Organic Medicinal & Pharmaceutical Chemistry, Edited by Jamie N. Delgado, William A. Remers(1998) - Lippincott –Raven – Pub. Philadelphia.
- Principle of Medicinal Chemistry - William O. Foye, Thomas R. Remlee & David A. Williams (1995) - B.J. Heaverly Pvt. Ltd. New Delhi
- Toxicology - principle and Applications - Raymond T.M. Niesink, Thon de vries, manfred A. Hollinger (1996) - CRC press and open university of Netherland (1996)
- Toxic chemicals, Health & Environment - lane, L.B. Upton
- Biochemical effects of Environmental Pollutants - Lee
- Insecticide Biochemistry and Physiology - C.F.Wilkinson (1976), Plenum press New York
- Environmental Chemistry - A.K.De (1995), Wiely Eastern.

