

**SARDAR PATEL UNIVERSITY**  
**Programme: MSC (Pharmaceutical Chemistry)**  
**Semester: IV**  
**Syllabus with effect from: June 2010**

<b>Paper Code:</b> PS04EPCH02	<b>Total Credits: 4</b>
<b>Title Of Paper:</b> Industrial Hygiene and Safety	

Unit	Description in detail	Weightage (%)
<b>1</b>	<b>Hazards:</b> Classification Hazardous chemical, transportation of Hazardous chemicals, Storage, Handling and control measures for hazardous chemicals. Hazards and controls in Unit process and Unit Operations. Hazards – fire, mechanical, electrical, chemical and pharmaceutical, Monitoring & prevention systems, industrial effluent testing & treatment. Control of environmental pollution.	<b>25 %</b>
<b>2</b>	<b>Fire and Safety: Fire:</b> Chemistry of fire, Personal protective equipments, Fire extinguishers, type of fire extinguishers, and use of fire extinguishers. <b>Safety:</b> Safety work permits, safety of pipelines, safety industrial equipments, safe start up and shut down procedures, emergency shut down.	<b>25 %</b>
<b>3</b>	<b>Concept of Industrial Safety:</b> Accidents investigation and Analysis, Statutory provisions, Types of chemical hazards and control, control techniques, process flow chart and its importance for safety inspection, interpretation, use and training of MSDS, UN, HAZCHEM. <b>Safety in chemical industry:</b> General introduction, type of chemical hazards, Safety and risk phrases, Storage hazards and control, Prevention of overflow-pressure-temperature and process flow, Types of guards and valves for the vessel, its inlet and out let, need of remote and auto control valves, Process hazards and controls.	<b>25 %</b>
<b>4</b>	<b>House keeping and First aid:</b> House keeping and toxicology First aid training, First aid measures.	<b>25 %</b>

**Basic Text & Reference Books:**

- Accident prevention manual for industrial operations, National safety council, Chicago, 10<sup>th</sup> edition.
- Safety and Accident prevention in chemical operation, 2<sup>nd</sup> edition, Howard H.
- Handbook of occupational safety and Health by S. Lawrence.
- MSDS – your guide to chemical safety
- Engineering design for control of work place hazards, A. Richard
- Safety managers Handbook, J. J. Keller and Associates Inc, USA.
- Supervising safety for hazardous Processes, Dr. K. U. Mistry, Safety Health and Environment Association, 1st edition.

