

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc (Industrial Chemistry)**  
**Semester: V**  
**Syllabus with effect from: June - 2013**

<b>Paper Code: US05CICH03</b>	<b>Total Credit: 3</b>
<b>Title of Paper: Petroleum Technology</b>	

Unit	Description in detail	Weightage (%)
I	Theories of petroleum formation, composition of petroleum, refining and rectification process of petroleum. Cracking and reforming process, reaction taking place in cracking, cracking catalyst, cracking plants.	25%
II	Light petroleum products, their specifications and test methods. Chemicals derived from C1, C2, C3 and C4 fractions, separation of components of petroleum by using techniques like- compression, absorption, adsorption, low temperature distillation, special and combined techniques.	25%
III	Manufacture of HCN, CS <sub>2</sub> , Maleic anhydride, Caprolactum and Phthalic anhydride, Ethyl benzene and Isopropyl benzene from Benzene.	25%
IV	Manufacture of Petrochemicals by following unit process: Dehydrogenation: Butadiene from butane/butene, Esterification: vinyl acetate, Hydration: Acetaldehyde from acetylene, Hydrolysis: ethanol from ethylene, Oxidation: ethylene oxide from ethylene and phenol from cumene, Hydroformylation : Propionaldehyde from ethylene and synthesis gas, Sulphonation : benzene sulfonic acid from benzene	25%

**Basic Text & Reference Books:**

- A Text on Petrochemicals by BhaskarRao ( Khanna Publishers - New Delhi)
- Modern Petroleum Refining Process by BhaskarRao (Oxford & IBH Publishing Co. Pvt. Ltd. – New Delhi)
- Advanced Petrochemicals by Dr. G. N. Sarkar ( Khanna Publishers)
- Advanced Petroleum Refining by Dr. G. N. Sarkar ( Khanna Publishers)
- Chemicals from Petroleum by A. L. Waddam( ELBS edition, London.)
- Shreve's Chemical Process Industries by Austin ( MacGrow- Hill Publication, New Delhi)
- Riegel's Hand Book of Industrial Chemistry by James A Kent (CBS Publishers & Distributors - New Delhi).

