

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.E. SEMESTER : VII**  
**ENVIRONMENTAL SCIENCE & TECHNOLOGY**

**Subject Name: Environmental Aspects of Petroleum Refining**

**Subject Code: 173506**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam(E)	University Exam(P)	Mid Sem Exam(Theory) (M)	Practical (Internal)
3	1	0	4	70	30	30	20

Sr No	Course Contents
1	Environmental aspects and treatment for control in the following aspects : Storage of crude Washing of crude Distillation under atmospheric and vacuum conditions
2	Environmental issues and strategy for manufacturing, storage, transport and further derivatives of gaseous products
3	Environmental aspects of Light end fuels and solvents (C <sub>5</sub> – C <sub>12</sub> ) for manufacturing, storage transportation, additive mixing and octane modification etc.
4	Environmental aspects and control for various processes such as Hydrodesulfurization Isomerization Reforming Cracking Hydrotreating Visbreaking Asphalt treating etc.
5	Safety and environmental issues of manufacturing, storage and handling of hydrogen & sulphur

**Reference Books:**

1. Coulson & Richardson's Chemical Engineering Volumes 1 and 6 by J. M. Coulson and J. F. Richardson with J. R. Backhurst and J. H. Marker
2. D. A. Wingham, Theory and practice of Heat engines, ELBS cambridge University press, 1970.
3. J. L. Threlkeld, Thermal Environmental Engineering, Prentice Hall 1970.
4. Advances in Petroleum Chemistry and Refining, Cobe and McKetta, Interscience Publishers, 1991
5. Modern Petroleum Technology, Phil and Hobson G.D, Applied Science Publishers, 1975
6. Petroleum Refining: Technology and Economics, J. H. Gary, and G. E. Handwerk, 3<sup>rd</sup> Ed, Marcel Dekker Inc. 1994

7. The chemistry and technology of Petroleum Hydrocarbon, J.H. Speight,, M Dekker, 3<sup>rd</sup> Ed, 1991
8. Advanced Petroleum Refining, G. N. Sarkar, Khanna Publishers 1998.