

Attention 8th Semester Students: Chemical Engineering

Dear Students,

Please follow the following link for the Subject: Petroleum Refining (Course No. ChBE-82)

NPTEL link: <https://nptel.ac.in/courses/103/102/103102022/>.

However the contents of the link to be followed will be updated to all of you through a WhatsApp group through the CR. The CR of the class should stay in contact with me for updates and necessary instructions please.

STAY HOME , STAY SAFE...

Hope to see u soon...

Dr. Tanveer Rasool
Teacher Incharge

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The syllabus is attached for ready reference....

Petroleum Refining

(Elective-III)

Course No. ChBE-82	L	T	P	Credit
	3	0	0	3

Objective: To impart fundamental knowledge on fractionation of the petroleum crude to various finished products.

Introduction: Indian and Global Petroleum Industries: An overview, emerging crude oil quality and fuel norms, natural gas, shale gas and gas hydrates, changing scenario in crude oil and natural gas availability.

Origin, Occurrence and Composition of Petroleum: Origin and occurrence of petroleum crude, drilling of crude oil and natural gas, composition of crude oil and natural gas, classification and physical properties of petroleum, evaluation of crude oil and petroleum products.

Evaluation of crude oil and petroleum products: Short term and Long term evaluation Composition of crude oil, TBP Assay, ASTM distillation, Evaluation crude oil base and other properties, Product quality analysis and fuel norms.

Crude Oil Distillation Processes: Pretreatment of crude, atmospheric and vacuum distillation process, effects of crude characteristics and operating variables in Crude oil distillation. Processing of high TAN crude oil.

Thermal Conversion Process: Thermal Cracking Reactions, Thermal Cracking, Visbreaking, Coking

Processing, Delayed, Fluid And Flexi Coking, Petroleum Coke.

Catalytic Conversion Process: Fluid Catalytic Cracking (FCC), Hydrocracking, Catalytic Reforming, Alkylation, Isomerization and Polymerization.

Lubricating Oil, Wax and Bitumen: Lube refining concept, Dewaxing, deasphalting, lube hydro-finishing, bitumen and asphalt processing.

Finishing and Sweetening processes: Desulfurization and hydro-desulfurisation of petroleum products., Sweetening Processes, Desulphurisation of sour water, sulphur recovery.

Future refining trends: Biofuel, gas to liquid technology, carbon foot prints in petroleum refining, concept of Petrochemical refinery, gas refinery and Biorefinery.