

Petroleum Refining

classmate

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6th Semester

Branch: Refinery and Petrochemical Engg.

④ Co 1: To develop understanding about origin, exploration and composition of petroleum crude.

Lo 1: To understand origin of crude and oil reserves.

Content: carbide theory, Engler theory, modern theory of petroleum origin, oil reserves in India. place of India in global oil map.

method of assessment: Internal mid sem test theory

hrs - 8 marks - 10

Lo 2: To get knowledge of exploration and composition of petroleum crude.

Content: petroleum crude exploration method, production methods, properties of ~~homog~~ homologous series homologous series, Evaluation of crude, paraffinic crude, naphthenic crude, mix crude characterization factors.

method of assessment: - End Sem Theory External

hrs 10

marks 15

④ Co 2 To understand different properties of crude and products

Lo 3 To know different properties of ~~crude~~ petroleum products.

Content: - API gravity, viscosity, viscosity index, knock characteristics, true ~~from~~ boiling point, Fractional analysis, aniline point, Kauri butanol number, Ring number, ASTM distillation,

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6th Sem

Flash point and fire point, cloud point, pour point
carbon residue, softening point, Reid vapor pressure
smoke point,

method of assessment:- End Sem Theory Exam External
hrs - 10 marks - 15

Lo4 : To determine viscosity

Content: determination of viscosity by Redwood viscometer
method of assessment: Practical End Sem External

hrs - 05 marks - 10

Lo5 To determine flash point, cloud point

Content: determination of flash point, fire point
cloud point and pour point.

method of assessment: Internal practical

hrs - 10 marks - 10

Lo6 To determine smoke point

Content: determination of smoke point by standard lamp.

method of assessment: External practical

hrs - 5 marks 10

⊛ Co3: To impart introductory knowledge of petroleum refining and corresponding processes.

Lo7:- To understand and understand petroleum processing

Content: Names of different petroleum products, their boiling ranges and uses, Boiling range of stocks sensitive stocks, pipe still heaters, Classification of refineries.

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6th Sem

method of assessment: Internal Theory Mid Sem Test
hrs 8 marks - 10

LO 8: To know refining operations.

content: Pretreatment of petroleum crudes, dehydration and desalting of crude, electric desalting method settling method

method of assessment: End Sem Theory Practical
hrs - 8 marks - 10

~~LO 9 - CO 4: To understand distillation and treatment of petroleum crude.~~

LO 9: To separate water from crude oil

content: Centrifugal separation of crude oil and water

method of assessment: Internal practical
hrs - 5 marks - 10

~~LO 4: To understand distillation and treatment of petroleum crude.~~

LO 10: To understand distillation of crude

content: General description of petroleum distillation atmospheric distillation, vacuum distillation pressure distillation different arrangements of towers, topping process, stabilisation process.

method of assessment: Internal Theory quiz, seminar
hrs - 07 marks - 10

LO 11: To understand treatment method

content: - Sulfuric acid treatment, deasphaltization

dearomatization, sweetening process, doctor's sweetening process, copper chloride sweetening process, sulfolizer process, catalytic desulfurization, clay treatment, contact filtration, percolation.

method of assessment:- End Sem Theory External
hrs - 10 marks - 10

④ Co 5: To conceptualize dewaxing, corrosion control and asphalt.

LO 12 To understand dewaxing process.

contents: dewaxing, chilling and pressing process, ketone dewaxing, propane dewaxing, Urea dewaxing,

method of assessment:- End Sem Theory
hrs - 10 marks - 10

LO 13: To understand corrosion and asphalt asphalt.

contents: sulphide corrosion, acid corrosion, corrosion control methods, sources of asphalt, types of asphalt, Air blowing ~~bitumen~~ bitumen.

method of assessment:- End Sem Theory External
hrs - 9 marks - 10

LO 14: ~~QFT~~ To determine penetration index

content: determination of penetration index by penetrometer.

method of assessment:- Practical External
hrs - 5 marks - 10