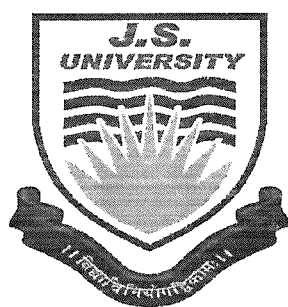


J.S. University, Shikohabad

Established by UP Govt. Act No. 07 of 2015
Recognized by U.G.C. under section 2 (f) of Act-
1956




Value Added Course

Petrochemicals

(VAC-144)

Department of Chemistry

	J.S. University, Shikohabad Department of Chemistry	Value Added Course
		AY:2021-2022

PETROCHEMICALS: VAC-144

Learning Objective:


This Course will provide knowledge of Petrochemicals

Duration: 30 Hours.

Course Outcomes: -

After completion of the course the student shall be able to:-

- CO-1** Importance and formation of Petroleum, and Physical & Thermal properties of petroleum.
- CO-2** Technology for the production of Methanol, acetone, acrylonitrile and isopropanol.
- CO-3** Synthesis and uses of the Herbicides (2,4-D and MCP), Fumigants, Nematicides and Rodenticides.
- CO-4** Importance of the petrochemical industry, Quality control and Petroleum Distribution, Environmental concern and Emission Norms.

	J.S. University, Shikohabad Department of Chemistry	Value Added Course
		AY:2021-2022

Syllabus Outline: VAC-144

1. Module-1 (08 Hours)

Introduction to Petroleum & Hydrocarbons

Origin and formation of Petroleum, Petroleum Reserves and Deposits, Composition of crude oil, Non- hydrocarbon components in Petroleum, Asphaltenes and Resins. Characterization of crude oil: TBP and ASTM distillation, Classification by chemical composition, Correlation Index, Density, API gravity, Viscosity, UOP characterization factor, etc. Physical & Thermal properties of petroleum, Petroleum products and their quality control.

2. Module-2 (08 Hours)

Petroleum Refining Processes

Thermal conversion processes: Visbreaking, Delayed Coking, Fluid coking, Flexicoking, etc
 Catalytic conversion processes: Fluid Catalytic Cracking, RFCC, DCC, Hydrocracking, Hydrotreating Processes, etc. Catalytic Reforming, Alkylation, Polymerization, Isomerisation etc.

3. Module-3 (07 Hours)

Petrochemical Technology

- (a) Technology for the production of Methanol, Ethylene oxide, Ethylene glycol and Vinyl Chloride, Acetic acid
- (b) Technology for the Production of acetone, acrylonitrile, linear alkyl benzene
- (c) Technology for the production of benzene, toluene, xylenes, phenol, styrene
- (d) Technology for the production of isopropanol, butadiene, isobutene, isobutene

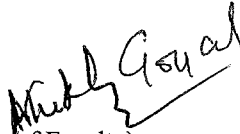
4. Module-4 (07 Hours)

Indian Petrochemical Industry and Environmental Concerns

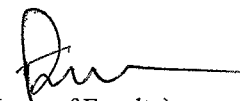
Indian Petrochemical Industry: Indian reserves, Indian Refining Scenario, Quality control and Petroleum Distribution, Environmental concern and Emission Norms, Refinery waste Disposal Practices.

References:

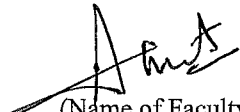
1. Hand Book of Petroleum refining Processes by ROBERT MEYERS, 3rd Edition, Tata McGraw Hill
2. Chemistry of Petrochemical Processes by SAMI MATAR & LEWIS HATCH, 2nd Edition, Gulf Publishing Company
3. Handbook of Petroleum, Product Analysis, JAMES G. SPEIGHT, John Wiley & Sons, Inc.


(Name of Faculty)
Course Coordinator

Ms. Nishi
Goyal


(Name of Faculty)
Dean Academics

Dr. Akhilesh


(Name of Faculty)
Director/Principle/
Dean of Faculty/Department

Dr. Anurag K.