

DEPARTMENT OF PETROLEUM STUDIES

Syllabus for Ph.D. Admission Test, effective from session 2021-22

Section B

Engineering Mathematics

Matrix algebra; ordinary and partial differential equations; numerical techniques, statistics

Process Calculations and Thermodynamics

Steady and unsteady state mass and energy balances, First and Second laws of thermodynamics

Reaction Engineering

Analysis of reaction rate data for single and multiple reactions, non-ideality of reactors, analysis of heterogeneous reactions

Petroleum Processing

Evaluation of crude oil, testing of petroleum products, Crude oil distillation, Secondary and Finishing processes

Petrochemicals

Industry: Overview, Preparation of feedstocks, Petrochemicals from C1, C2, C3, C4 and Cyclic hydrocarbons with unit process involved

Polymer Science and Technology

Basic concepts of polymers, Polymer reaction kinetics, Rheology & Viscoelasticity and Polymer Processing.