Course Type	Course Code	Name of Course	L	T	P	Credit
DP	NFMC529	Processing of Liquid and Gaseous Fuels Lab	0	0	3	1.5

Course Objective
To impart practical exposure to the different characterization techniques for liquid and gaseous fuels
Learning Outcomes
After completion of the course, the students will have hands-on knowledge of • Liquid fuel characterization techniques • Gaseous fuel characterization techniques

Exp. No.	Name of Experiment	Practical Hours	Learning Outcome
1	Flash point and Fire point	3	Knowledge about the flash and fire point of liquid fuels
2	Pour point and cloud point	3	Knowledge about the Pour and cloud point of liquid fuels
3	Aniline point and Diesel Index	3	Understanding of the aniline point of different liquid fuels
4	Reid vapor pressure	3	Exposure to the Reid vapor pressure and its application
5	Calorific value using Bomb Calorimeter	3	Understanding of the determination of the calorific value of liquid fuels using bomb calorimeter
6	Calorific value using Junkers calorimeter	3	Understanding of the determination of the calorific value of fuel gas using Junkers calorimeter
7	Softening point	3	Exposure to the softening point
8	Conradson carbon residue	3	Knowledge about the Conradson carbon residue
9	Ramsbottom carbon residue	3	Knowledge about the Ramsbottom carbon residue
10	Viscosity	3	Exposure to the estimation of the viscosity of liquid fuels
11	Gas chromatography for fuel gas quantification	3	Understanding of gas chromatography technique for fuel gas quantification
12	Smoke point	3	Knowledge of the smoke point
13	ASTM Distillation	3	Understanding of the ASTM distillation
14	Cetane Number and Octane Number	3	Exposure to the Cetane Number and Octane Number of the liquid fuels
Total		**42**	

Text Books:

1. Fuel Solids, Liquid and Gaseous: Edward Arnold and Co., *Authors*: J S S Brame and J G King.

Reference Books:

1. Modern Petroleum Refinning Process: Oxford and IBH publishing India, *Authors*: B.K.Bhaskara Rao.
2. Elements of Petroleum Refinery Engineering: Khanna Book Publishing Company Ltd., *Authors*: O.P.Gupta.