Course Type	Course Code	Name of Course	L	T	P	Credit
DP6	PEC 305	Process Engineering Lab	0	0	2	2

Course Objectives:
To provide on-hand training of different control process required in oil and gas filed operations.

Learning Outcomes:
Exposure of different equipment.

COURSE CONTENT:

Exp. No.	Name of the Experiment	Contact Hrs
1.	Determination of Power Input, Heat Output and Coefficient of Performance of Mechanical Heat Pump.	2
2.	To investigate and measure the Heat Flux and Surface Heat Transfer coefficient during Film wise and Drop wise Condensation at atmospheric pressure.	2
3.	To investigate the stability limit of gaseous fuel and compare the limits of stable operation of various burners operating on gaseous fuel by plotting test results on a 'Fuidge' diagram. Measure the Flame speed of air/gas mixture	2
4.	To show that ON/OFF control produces oscillations of the controlled variable at the set point, and the magnitude and period of such oscillations are related to the process delay time.	2
5.	Determine the Surface Heat Transfer Coefficient inside & outside the tube, overall heat transfer coefficient and the effect of fluid velocity on these and show it graphically.	2
6.	Study of Centrifugal pump Characteristics and to determine; Power Input, Shaft Output, Discharge, Total Head, Pump Output, Overall Efficiency and Pump Efficiency	2
7.	Study of heat transfer in natural convection process, and determination of the Heat transfer coefficient of heated vertical cylinder, which is exposed to atmosphere.	2
8.	To investigate the flow round a 90° bend in a duct of rectangular section using pressure tapings along the walls to establish pressure Co-efficient.	2
9.	To investigate- Fourier's law for linear conduction of heat along a simple bar. Effect of Surface contact on thermal conduction. The rate of heat transfer from radial steady conduction through a wall of cylinder.	2
10.	Inverse Square Law: To Show that the luminance of a surface is inversely proportional to the square of the distance of the surface from the light source.	2
11.	Lambert's Cosine Law: To show that the energy radiated in any direction at an angle with a surface is equal to the normal radiation multiplied by the cosine of the angle between the direction of the radiation and the normal to the surface.	2