

SUDDHANANDA ENGINEERING AND RESEARCH CENTER || Lesson Plan

Discipline : MECHANICAL ENGG.		Semester: 5th Sem		Name of the Teaching Faculty : H.K.Panda		
Subject : RAC		No. of Days / per week class allotted : 04				
MONTH	Week	Day	Topics			
SEPTEMBER	3rd	4th	Definition of refrigeration and unit of refrigeration. Definition of COP, Refrigerating effect (R.E) □			
		5th	Principle of working of open and closed air system of refrigeration			
	4th	1st	Principle of working of open and closed air system of refrigeration			
		3rd	Calculation of COP of Bell-Coleman cycle and numerical on it.			
		4th	Calculation of COP of Bell-Coleman cycle and numerical on it.			
	5th	5th	schematic diagram of simple vapors compression refrigeration system			
		1st	schematic diagram of simple vapors compression refrigeration system			
		3rd	Types of simple vapors compression refrigeration system Cycle with dry saturated vapors after compression. Cycle with wet vapors after compression.			
		4th	Cycle with superheated vapors after compression.			
		5th	Cycle with superheated vapors before compression. Cycle with sub cooling of refrigerant			
	OCTOBER	3rd	1st	Cycle with superheated vapors before compression. Cycle with sub cooling of refrigerant ?		
			3rd	Representation of above cycle on temperature entropy and pressure enthalpy diagram		
4th			Numerical on above (determination of COP,mass flow)			
5th			Numerical on above (determination of COP,mass flow)			
4th		1st	Simple vapor absorption refrigeration system.			
		3rd	Practical vapor absorption refrigeration system			
		4th	Practical vapor absorption refrigeration system			
5th		5th	Practical vapor absorption refrigeration system			
		1st	Numerical on COP.			
		3rd	Numerical on COP.			
		4th	Numerical on COP.			
		5th	REFRIGERANT COMPRESSORS Principle of working and constructional details of reciprocating and rotary compressors. □			
NOVEMBER	1st	3rd	Centrifugal compressor only theory and Important terms. Hermetically and semi hermetically sealed compressor			
		4th	Centrifugal compressor only theory and Important terms. Hermetically and semi hermetically sealed compressor			
		5th	Principle of working and constructional details of air cooled and water cooled condenser			
	2nd	1st	Heat rejection ratio. Cooling tower and spray pond.			
		3rd	Principle of working and constructional details of an evaporator			
		4th	Types of evaporator Bare tube coil evaporator, finned evaporator, shell and tube evaporator			
		5th	Capillary tube Automatic expansion valve Thermostatic expansion valve ?			
	3rd	1st	Classification of refrigerants			
		3rd	Desirable properties of an ideal refrigerant. Designation of refrigerant. ?			
		4th	Thermodynamic Properties of Refrigerants. Chemical properties of refrigerants			
		5th	Commonly used refrigerants, R-11, R-12, R-22, R-134a, R-717 Substitute for CFC			
	4th	1st	Applications of refrigeration cold storage dairy refrigeration ?			
		3rd	ice plant water cooler ?			
		4th	frost free refrigerator			
		5th	Psychometric terms			
		5th	1st	Adiabatic saturation of air by evaporation of water.		
	3rd		Psychometric chart and uses.			
	DECEMBER	1st	4th	Psychometric processes Sensible heating and Cooling Cooling and Dehumidification .		
5th			Heating and Humidification Adiabatic cooling with humidification			
2nd		1st	Total heating of a cooling process SHF, BPF Adiabatic mixing ?			
		3rd	Problems on above			
		4th	Problems on above			
		5th	Effective temperature and Comfort chart			
3rd		1st	Factors affecting comfort air conditioning			
		3rd	Equipment used in an air-conditioning			
		4th	Classification of air-conditioning system			
4th		5th	Winter Air Conditioning System ,Summer air-conditioning system			
		1st	Winter Air Conditioning System Summer air-conditioning system			
		3rd	Numerical on above			
		4th	Revision			