

Government Polytechnic Mayurbhanj, Tikarpada Lesson Plan			
Discipline : MECHANICAL ENGG.		Semester: 5th Sem	Name of the Teaching Faculty : SASMITA SAHA
Subject : RAC		No. of Days / per week class allotted : 04	Semester From date : 15.09.2022 To Date : 22.12.2022
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	schematic diagram of simple vapors compression refrigeration system
	5th	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
			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	Practical vapor absorption refrigeration system
	5th	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
		5th	Winter Air Conditioning System ,Summer air-conditioning system
	4th	1st	Winter Air Conditioning System Summer air-conditioning system
		3rd	Numerical on above
		4th	Revision