

Government Polytech		
Discipline : MECHANICAL ENGG.		Semester: 5th Sem
Subject : RAC		No. of Days / per week class allotted : 04
MONTH	Week	Day
SEPTEMBER	3rd	4th
		5th
	4th	1st
		3rd
		4th
		5th
	5th	1st
		3rd
		4th
		5th
OCTOBER	3rd	1st
		3rd
		4th
		5th
	4th	1st
		3rd
		4th
		5th
	5th	1st
		3rd
		4th
		5th
NOVEMBER	1st	3rd
		4th
		5th
	2nd	1st
		3rd
		4th
		5th
		1st
		3rd

NC	3rd	4th
		5th
	4th	1st
		3rd
		4th
		5th
	5th	1st
		3rd
DECEMBER	1st	4th
		5th
	2nd	1st
		3rd
		4th
		5th
	3rd	1st
		3rd
		4th
		5th
	4th	1st
		3rd
		4th

nic Mayurbhanj, Tikarpada || Lesson Plan

Name of the Teaching Faculty : SASMITA SAHA

Semester From date : 15.09.2022

To Date : 22.12.2022

Topics

Definition of refrigeration and unit of refrigeration.

Definition of COP, Refrigerating effect (R.E)

Principle of working of open and closed air system of refrigeration

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Calculation of COP of Bell-Coleman cycle and numerical on it.

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schematic diagram of simple vapors compression refrigeration system'

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Types of simple vapors compression refrigeration system' :

Cycle with dry saturated vapors after compression.

Cycle with wet vapors after compression.

Cycle with superheated vapors after compression.

Cycle with superheated vapors before compression.

Cycle with sub cooling of refrigerant

Cycle with superheated vapors before compression. Cycle with sub cooling of refrigerant

Representation of above cycle on temperature entropy and pressure enthalpy diagram

Numerical on above (determination of COP, mass flow)

Numerical on above (determination of COP, mass flow)

Simple vapor absorption refrigeration system.

Practical vapor absorption refrigeration system

Practical vapor absorption refrigeration system

Practical vapor absorption refrigeration system

Numerical on COP.

Numerical on COP.

Numerical on COP.

REFRIGERANT COMPRESSORS

Principle of working and constructional details of reciprocating and rotary compressors. .

Centrifugal compressor only theory and

Important terms. Hermetically and semi hermetically sealed compressor

Centrifugal compressor only theory and

Important terms. Hermetically and semi hermetically sealed compressor

Principle of working and constructional details of air cooled and water cooled condenser

Heat rejection ratio.

Cooling tower and spray pond.

Principle of working and constructional details of an evaporator

Types of evaporator

Bare tube coil evaporator, finned evaporator, shell and tube evaporator

Capillary tube

Automatic expansion valve

Thermostatic expansion valve

Classification of refrigerants

Desirable properties of an ideal refrigerant.

Designation of refrigerant.

Thermodynamic Properties of Refrigerants.
Chemical properties of refrigerants
Commonly used refrigerants, R-11, R-12, R-22, R-134a, R-717
Substitute for CFC
Applications of refrigeration
cold storage ,
dairy refrigeration
ice plant
water cooler
frost free refrigerator
Psychometric terms
Adiabatic saturation of air by evaporation of water.
Psychometric chart and uses.
Psychometric processes
Sensible heating and Cooling
Cooling and Dehumidification .
Heating and Humidification
Adiabatic cooling with humidification
Total heating of a cooling process
SHF, BPF,
Adiabatic mixing
Problems on above
Problems on above
Effective temperature and Comfort chart
Factors affecting comfort air conditioning
Equipment used in an air-conditioning
Classification of air-conditioning system
Winter Air Conditioning System
Summer air-conditioning system
Winter Air Conditioning System
Summer air-conditioning system
Numerical on above
Revision