

PNS SCHOOL OF ENGG. & TECH., MARSHAGHAI**DEPARTMENT OF MECHANICAL ENGINEERING****LESSON PLAN****SUBJECT: REFRIGERATION AND AIR CONDITIONING (5TH SEM)****NAME OF THE LECTURER: Mr. JYOTIRMAY JENA**

CHAPTER	MONTH	DATE	TOPIC TO BE COVERED
CHAPTER 1&2	SEP	15.09.22	<u>CH-1</u> Definition refrigeration
		16.09.22	unit of refrigeration (TR)
		19.09.22	COP and Refrigerating effect
		20.09.22	Principle of working of open and closed air system of refrigeration
		21.09.22	Calculation of COP of Bell-Coleman cycle
		22.09.22	numerical on bell-coleman cycle
		23.09.22	numerical on bell-coleman cycle
		24.09.22	Review of Bell-coleman cycle
		26.09.22	<u>CH-2</u> diagram of simple vapors compression refrigeration system
		27.09.22	working & diagram of simple vapors compression refrigeration system
		28.09.22	Cycle with dry saturated after compression
		29.09.22	Cycle with wet vapour after compression
		30.09.22	DOUBT CLEARING
CHAPTER 2,3&4	OCT	10.10.22	Cycle with super heated vapour before compression
		11.10.22	Cycle with sub cooling of refrigerant
		12.10.22	Numericals
		13.10.22	Numericals
		14.10.22	Numericals
		15.10.22	Numericals
		18.10.22	<u>CH-3</u> Simple Vapour Absorption Refrigeration
		19.10.22	Practical VA refrigeration system
		20.10.22	Practical VA refrigeration system
		21.10.22	Advantages and disadvantages of VA system over VC system
		22.10.22	Numericals on COP calculation
		26.10.22	Numericals on COP calculation
		27.10.22	Numericals on COP calculation
		28.10.22	Review of VA cycle
29.10.22	<u>CH-4</u> classifications of refrigerant Compressors, Important terms		
31.10.22	Working of Reciprocating compressor		
CHAPTER 4&5	NOV	01.11.22	Working of Rotary compressor
		02.11.22	Working of centrifugal compressor
		03.11.22	,Hermetically and semihermetically sealed compressor
		04.11.22	Air cooled condenser, water cooled condenser
		05.11.22	Heat rejection ratio
		09.11.22	Cooling tower, spray pond
		10.11.22	Working and constructional details of an evaporator
		11.11.22	Bare tube coil evaporator, finned evaporator, shell and tube evaporator
		12.11.22	Q/A discussion

		14.11.22	CH-5 Refrigerant Flow controls,Refrigerants Functions of Expansion device,	
		15.11.22	Capillary tube	
		17.11.22	Automatic Expansion valve,Thermostatic Expansion valve	
		18.11.22	Classification of refrigerants,designation of refrigerants	
		19.11.22	Desirable properties of an ideal refrigerant	
		21.11.22	Thermal and chemical properties of refrigerants	
CHAPTER 6	NOV	22.11.22	R-11,R-12,R-22	
		23.11.22	,R-134a,R-717	
		24.11.22	Substitute for CFC,cold storage	
		25.11.22	dairy refrigeration,	
		26.11.22	ice plant	
		28.11.22	CH-6 water cooler and ,frost free refrigerator	
		29.11.22	Psychrometric terms	
	30.11.22	Comfort air conditioning		
			01.12.22	Adiabatic saturation of air by evaporation
			02.12.22	Psychrometric chart and use
		03.12.22	Sensible heating and sensible cooling	
CHAPTER 7	DEC	05.12.22	Heating and Humidification	
		06.12.22	Adiabatic cooling with humidification	
		07.12.22	SHF,BPH	
		08.21.22	Adiabatic mixing	
		09.12.22	NUMERICALS	
		10.12.22	NUMERICALS	
		12.12.22	NUMERICALS	
		13.12.22	NUMERICALS	
		14.12.22	NUMERICALS	
		15.12.22	CH-7 -Air Conditioning System	
		16.12.22	Equipments used in air conditioning system	
		17.12.22	classification of air conditioning system	
		19.12.22	Winter air conditioning System	
		20.12.22	Summer air conditioning System	
		21.12.22	review	
22.12.22	review			

Ramakant Swath

SIGNATURE OF H.O.D.

Jyotirmay J

SIGNATURE OF LECTURER