

Lesson Plan

Subject: **R&AC** (Th-5)

Name of faculty: **SATYABRATA KHILAR**


Semester: **5th** Class allotted: **4p/week** Branch: **Mechanical** Session: **2023(W)**

Discipline	Semester	From date:	To date:	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical - Topics/Lesson		
Week	Date/Period			
1	01/08/2023	1.0 AIR REFRIGERATION CYCLE.		White Board
	to	1.1 Definition of refrigeration and unit of refrigeration.		Marker
	05/08/2023	1.2 Definition of COP, Refrigerating effect (R.E)		Smart board
		1.3 Principle of working of open and closed air system of refrigeration.		
2		1.3.1 Calculation of COP of Bell-Coleman cycle		
	07/08/2023	and numerical on it.		White Board
	to	2.0 SIMPLE VAPOUR COMPRESSION REFRIGERATION SYSTEM		Marker
	12/08/2023	2.1 schematic diagram of simple VCRS		Smart board
3		2.2 Types		
	14/08/2023	2.2.1 Cycle with dry saturated vapors after compression.		White Board
	to	2.2.2 Cycle with wet vapors after compression.		Marker
	19/08/2023	2.2.3 Cycle with superheated vapours after compression.		Smart board
4		2.2.4 Cycle with superheated vapours before compression.		
	21/08/2023	2.2.5 Cycle with sub cooling of refrigerant		White Board
	to	2.2.6 Representation of above cycle on temperature-entropy and pressure-enthalpy diagram		Marker
	26/08/2023	2.2.7 Numerical on above (COP, mass flow)		Smart board
5		Continue...		
	28/08/2023	3.0 VAPOUR ABSORPTION REFRIGERATION SYSTEM		White Board
	to	3.1 Simple vapor absorption refrigeration system		Marker
	02/09/2023	3.2 Practical vapor absorption refrigeration system		Smart board
6		3.3 COP of an ideal vapour absorption refrigeration		
	04/09/2023	Continue...		
	to	3.4. Numerical on COP.		White Board
	09/09/2023	Continue...		Marker
7		4.0 REFRIGERATION EQUIPMENTS		Smart board
	11/09/2023	4.1 REFRIGERANT COMPRESSORS		
	to	4.1.1 Principle of working and constructional details of reciprocating and rotary compressors.		White Board
	16/09/2023	4.1.2 Centrifugal compressor only theory		Marker
		4.1.3 Important terms.		Smart board
		4.1.4 Hermetically and semi hermetically sealed compressor.		

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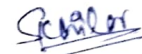
Week	Date/Period	Theory/ Practical Topics/Lesson	Teaching Aid
8	18/09/2023	4.2 CONDENSERS 4.2.1 Principle of working and constructional details of air cooled and water cooled condenser	White Board
	to	4.2.2 Heat rejection ratio.	Marker
	23/09/2023	4.2.3 Cooling tower and spray pond. 4.3 EVAPORATORS 1.6.1 Principle of working and constructional details of an evaporator.	Smart board
9		1.6.2 Types of evaporator.	White Board
	25/09/2023	1.6.3 Bare tube coil evaporator, finned evaporator, shell and tube evaporator.	Marker
	to	5.0 REFRIGERANT FLOW CONTROLS, REFRIGERANTS & APPLICATION OF REFRIGERANTS	Smart board
	30/09/2023	5.1 EXPANSION VALVES 5.1.1 Capillary tube	
10	03/10/2023	5.1.2 Automatic expansion valve	White Board
	to	5.1.3 Thermostatic expansion valve	Marker
		5.2 REFRIGERANTS	Smart board
	07/10/2023	5.2.1 Classification of refrigerants 5.2.2 Desirable properties of an ideal refrigerant.	
11	09/10/2023		
	to	Internal Exam	
	14/10/2023		
12	16/10/2023	5.2.3 Designation of refrigerant. 5.2.4 Thermodynamic Properties of Refrigerants.	White Board
	to	5.2.5 Chemical properties of refrigerants. 5.2.6 commonly used refrigerants, R-11, R-12, R-22, R-134a, R-717	Marker
	20/10/2023	5.2.7 Substitute for CFC	Smart board
		5.3 Applications of refrigeration 5.3.1 cold storage	
13	30/10/2023	5.3.2 dairy refrigeration 5.3.3 ice plant	White Board
	to	5.3.4 water cooler 5.3.5 frost free refrigerator	Marker
	04/11/2023	6.0 PSYCHOMETRICS & COMFORT AIR CONDITIONING SYSTEMS 6.1 Psychometric terms	Smart board
		6.2 Adiabatic saturation of air by evaporation of water	
14	06/11/2023	6.3 Psychometric chart and uses	White Board
	to	6.4 Psychometric processes 6.4.1 Sensible heating and Cooling	Marker
	11/11/2023	6.4.2 Cooling and Dehumidification 6.4.3 Heating and Humidification	Smart board
		6.4.4 Adiabatic cooling with humidification 6.4.5 Total heating of a cooling process	


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Week	Date/Period	Theory/ Practical – Topics/Lesson	Teaching Aid
15	13/11/2023	6.4.6 SHF, BPF.	White Board
	to	6.4.7 Adiabatic mixing	
	18/11/2023	6.4.8 Problems on above.	Marker
		Continue...	Smart board
		6.5 Effective temperature and Comfort chart	
16	20/11/2023	7.0 AIR CONDITIONING SYSTEMS	White Board
	to	7.1 Factors affecting comfort air conditioning.	
		7.2 Equipment used in an air-conditioning.	Marker
	25/11/2023	7.3 Classification of air-conditioning system	
		7.4 Winter Air Conditioning System	Smart board
		7.5 Summer air-conditioning system.	
		7.6 Numerical on above	
17	28/11/2023	Revision...	White Board
	to	Revision...	Marker
	30/11/2023	Revision...	Smart board
		Revision...	


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