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.	
	05/08/2023	1.2 Definition of COP, Refrigerating effect (R.E)	Marker
		1.3 Principle of working of open and closed air system of refrigeration.	Smart board
		1.3.1 Calculation of COP of Bell-Coleman cycle	
2	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	
		2.2 Types	Smart board
		2.2.1 Cycle with dry saturated vapors after compression.	
3	14/08/2023	2.2.2 Cycle with wet vapors after compression.	White Board
	to	2.2.3 Cycle with superheated vapours after compression.	Marker
	19/08/2023	2.2.4 Cycle with superheated vapours before compression.	Smart board
		2.2.5 Cycle with sub cooling of refrigerant	
4	21/08/2023	2.2.6 Representation of above cycle on temperature-entropy and pressure-enthalpy diagram	White Board
	to	2.2.7 Numerical on above (COP,mass flow)	Marker
	26/08/2023	Continue...	Smart board
		Continue...	
5	28/08/2023	**3.0 VAPOUR ABSORPTION REFRIGERATION SYSTEM**	White Board
	to	3.1 Simple vapor absorption refrigeration system	
	02/09/2023	3.2 Practical vapor absorption refrigeration system	Marker
		3.3 COP of an ideal vapour absorption refrigeration	Smart board
		Continue...	
6	04/09/2023	3.4.Numerical on COP.	White Board
	to	Continue...	Marker
	09/09/2023	**4.0 REFRIGERATION EQUIPMENTS**	Smart board
		4.1 REFRIGERANT COMPRESSORS	
7	11/09/2023	4.1.1 Principle of working and constructional details of reciprocating and rotary compressors.	White Board
	to	4.1.2 Centrifugal compressor only theory	Marker
	16/09/2023	4.1.3 Important terms.	Smart board
		4.1.4 Hermetically and semi hermetically sealed compressor.	

Signature of HOD

Scholar

Signature of faculty

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

Signature of HOD

Signature of faculty

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

Signature of HOD

Signature of faculty