



LESSON PLAN

SUBJECT: REFRIGERATION AND AIR CONDITIONING

FACULTY: MRS. SUSHREE PRIYADARSHINI

ACCADEMIC SESSION: 2023-24

SEMESTER: 5th

SEC: A

Sd/-

H O D (MechEngg.)

LESSON PLAN

Discipline: Mechanical Engg.	Semester: 5 th	Name of the teaching faculty: Sushree Priyadarshini
Subject: Refrigeration and air conditioning	No of days/per week class allotted: 4	Semester from date: 01/08/2023 to date: 30/11/2023 No. of weeks- 17
Week	Class day	Theory/practical topics
1 st	01/08/2023	Introduction to the refrigeration and air conditioning 1.1 Definition of refrigeration and unit of refrigeration
	03/08/2023	1.2 definition of cop ,refrigeration effect
	04/08/2023	1.3 Principle of working of open and closed air system of refrigeration
2 nd	07/08/2023	1.3.1 Calculation of COP of bell –coleman cycle and numerical on it
	08/08/2023	2.1 Schematic diagram of simple vcrs, 2.2 types
	10/08/2023	2.2.1 cycle with dry saturated vapour after compression
	11/08/2023	2.2.2 cycle with wet vapour after compression
3 rd	14/08/2023	2.2.3 cycle with superheated vapour after compression
	17/08/2023	2.2.4 cycle with superheated vapour before compression
	18/08/2023	2.2.5 cycle with subcooling of refrigerant
4 th	21/08/2023	2.2.6 representation of above cycle on T-S and P-H diagram
	22/08/2023	3.1, 3.2 practical vapour absorption refrigeration system



5 th	24/08/2023	3.3 COP ideal VARS
	25/08/2023	3.4 NUMERICALS
	28/08/2023	4.1.1 principle of working and construction details of reciprocating and rotary compressors
6 th	29/08/2023	4.1.2 centrifugal compressor only theory
	31/08/2023	4.1.3 important terms
	01/09/2023	4.1.4 hermetically and semi hermetically sealed compressor
7 th	04/09/2023	4.2.1 principle of working and constructional details of air cooled and water cooled condenser
	08/09/2023	4.2.2 heat rejection ratio
	11/09/2023	4.2.3 cooling tower and spray pool
8 th	12/09/2023	Class test -1
	14/09/2023	4.3 principle of working and constructional details of an evaporator
	15/09/2023	4.3.1 types of evaporator
9 th	18/09/2023	4.3.2 bare tube coil evaporator, finned evaporator, shell and tube evaporator
	21/09/2023	5.1.1 capillary tube
	22/09/2023	5.1.2 automatic expansion valve
9 th	25/09/2023	5.1.3 thermostatic expansion valve
	26/09/2023	5.2.1 classification of refrigerants
	28/09/2023	5.2.2 desirable properties of an ideal refrigerants
	29/09/2023	Internal assessment
		5.2.3 designation of refrigerants

10 th		5.2.4 thermodynamic properties of refrigerant
	03/10/2023	5.2.5 chemical properties of refrigerants
	05/10/2023	5.2.6 commonly used refrigerants 5.2.7 substitute of cfc
	06/10/2023	5.3.1 application of refrigeration in cold storage 5.3.2 dairy refrigeration2
11 th	09/10/2023	5.3.3 ice plant 5.3.4 water cooler 5.3.5 froast free refrigerator
	10/10/2023	Internal assessment
	12/10/2023	Internal assessment
	13/10/2023	6.1 psychrometric terms 6.2 adiabatic saturation of air by evaporation of water
12 th	16/10/2023	6.3Psychrometric chart and uses
	17/10/2023	6.4 psychrometric processes
	19/10/2023	6.4 psychrometric processes
	20/10/2023	6.4.1 sensible heating and cooling
13 th	30/10/2023	6.4.2 cooling and dehumidification
	31/10/2023	6.4.3 heating and humidification
	02/11/2023	6.4.4 adiabatic cooling with humidification
	03/11/2023	6.4.5 total heating of a cooling process
14 th	06/11/2023	6.4.6 SPF,BPF
	07/11/2023	6.4.8 problems on above
	09/11/2023	6.5 effective temperature and comfort chart

		7.1 factors affecting comfort ac
	10/11/2023	6.5 effective temperature and comfort chart
		7.1 factors affecting comfort ac
15 th	13/11/2023	7.2 equipments used in an ac
	14/11/2023	7.3 classification of air conditioning system
	16/11/2023	Doubt clearing classes
	17/11/2023	Doubt clearing classes
16 th	20/11/2023	Doubt clearing classes
	21/11/2023	Doubt clearing classes
	23/11/2023	2 nd class test
	24/11/2023	revision
17 th	28/11/2023	revision
	30/11/2023	revision

SP