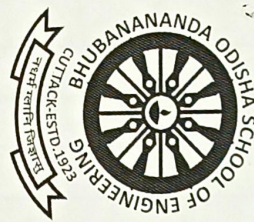


**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF MECHANICAL ENGINEERING**



LESSON PLAN

**SUBJECT: REFRIGERATION AND AIR CONDITIONING
FACULTY: MRS. SUSHREE PRIYADARSHINI**

**ACCADEMIC SESSION: 2022-23
SEMESTER: 5th
SEC: B**

[Signature]
SD/-
14.09.22
H O D (Mech Engg.)

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: 15/09/2022 to date: 22/12/2022
Week	Class day	No. of weeks- 15
1 st	15/09/2022	Theory/practical topics Introduction to the refrigeration and air conditioning
		1.1 Definition of refrigeration and unit of refrigeration
	16/09/2022	1.2 definition of cop ,refrigeration effect
	17/09/2022	1.3 Principle of working of open and closed air system of refrigeration
2 nd	19/09/2022	1.3.1 Calculation of COP of bell –coleman cycle and numerical on it
	22/09/2022	2.1 Schematic diagram of simple vcrs, 2.2 types
	23/09/2022	2.2.1 cycle with dry saturated vapour after compression

	24/09/2022	2.2.2 cycle with wet vapour after compression
3 rd	26/09/2022	2.2.3 cycle with superheated vapour after compression
	29/09/2022	2.2.4 cycle with superheated vapour before compression
	30/09/2022	2.2.5 cycle with subcooling of refrigerant 2.2.6 representation of above cycle on T-S and P-H diagram
4 th	02/10/2022 to 08/10/2022	Puja holiday
5 th	13/10/2022	3.1.3.2 practical vapour absorption refrigeration system
	14/10/2022	3.3 COP ideal VARS
	15/10/2022	3.4 NUMERICALS
6 th	17/10/2022	4.1.1 principle of working and construction details of reciprocating and rotary compressors
	20/10/2022	4.1.2 centrifugal compressor only theory
	21/10/2022	4.1.3 important terms

	22/10/2022	4.1.4 hermetically and semi hermetically sealed compressor
7 th	27/10/2022	4.2.1 principle of working and constructional details of air cooled and water cooled condenser
	28/10/2022	4.2.2 heat rejection ratio
	29/10/2022	4.2.3 cooling tower and spray pool
8 th	31/10/2022	Class test
	3/11/2022	4.3 principle of working and constructional details of an evaporator
		4.3.1 types of evaporator
	4/11/2022	4.3.2 bare tube coil evaporator, finned evaporator, shell and tube evaporator
	5/11/2022	5.1.1 capillary tube
	7/11/2022	5.1.2 automatic expansion valve
9 th	10/11/2022	5.1.3 thermostatic expansion valve
	11/11/2022	5.2.1 classification of refrigerants

		12/11/2022	5.2.2 desirable properties of an ideal refrigerants
			Internal assessment
10 th		14/11/2022 to 15/11/2022 17/11/2022	5.2.3 designation of refrigerants 5.2.4 thermodynamic properties of refrigerant
		18/11/2022	5.2.5 chemical properties of refrigerants
		19/11/2022	5.2.6 commonly used refrigerants 5.2.7 substitute of cfc
11 th		21/11/2022	5.3.1 application of refrigeration in cold storage 5.3.2 dairy refrigeration ²
		25/11/2022	5.3.3 ice plant 5.3.4 water cooler
		26/11/2022	5.3.5 froast free refrigerator
12 th		28/11/2022	6.1 psychrometric terms 6.2 adiabatic saturation of air by evaporation of water
		01/12/2022	6.3 Psychrometric chart and uses

		02/12/2022	6.4.1 sensible heating and cooling
		03/12/2022	6.4.2 cooling and dehumidification
13 th		5/12/2022	6.4.3 heating and humidification
		08/12/2022	6.4.4 adiabatic cooling with humidification
		09/12/2022	6.4.5 total heating of a cooling process
			6.4.6 SPF, BPF 6.4.8 problems on above
			6.5 effective temperature and comfort chart
			7.1 factors affecting comfort ac
		10/12/2022	7.2 equipments used in an ac
14 th		12/12/2022	7.3 classification of air conditioning system
		15/12/2022	2 nd class test
		16/12/2022	revision
		17/12/2022	revision
15 th		19/12/2022	revision
		22/12/2022	revision