

**ACADEMIC SESSION: 2023-24(WINTER -2023)**

Semester:5 TH

Name of the teaching faculty:

SARAT KUMAR BISWAL

Subject-Refrigeration And  
Air Conditioning

Semester from date:01.08.2023 to 30.11.2023

	DATE	CHAPTER	THEORY TOPIC NAME	NO OF PERIODS	
1.	02.08.23	<b>AIR REFRIGERATION CYCLE</b>	Definition of refrigeration and unit of refrigeration.	1	
2.	03.08.23		Definition of COP, Refrigerating effect (R.E )	1	
3.	04.08.23		Principle of working of open and closed air system of refrigeration.	1	
4.	04.08.23		Calculation of COP of Bell-Coleman cycle .	1	
5.	09.08.23		Solve numerical above it.	1	
6.	10.08.23	<b>SIMPLE VAPOUR COMPRESSION REFRIGERATION SYSTEM</b>	schematic diagram of simple vapors compression refrigeration system'	1	
7.	11.08.23		Cycle with dry saturated vapors after compression	1	
8.	14.08.23		solve simple numerical problems above it.	1	
9.	16.08.23		Cycle with wet vapors after compression.	1	
10.	17.08.23		Cycle with superheated vapors after compression.	1	
11.	18.08.23		solve simple numerical problems above it.	1	
12.	21.08.23		Cycle with superheated vapors before compression.	1	
13.	23.08.23		Cycle with sub cooling of refrigerant	1	
14.	24.08.23		solve simple numerical problems above it.	1	
15.	25.08.23		Representation of above cycle on temperature entropy and pressure enthalpy diagram	1	
16.	28.08.23		<b>Vapour absorption refrigeration</b>	Simple vapor absorption refrigeration system	1
17.	31.08.23			Simple vapor absorption refrigeration system	1
18.	01.09.23			Practical vapor absorption refrigeration system	1
19.	04.09.23			Practical vapor absorption refrigeration system	1
20.	07.09.23			COP of an ideal vapor absorption refrigeration	1
21.	08.09.23	solve simple numerical problems above it.		1	
22.	11.09.23	solve simple numerical problems above it.		1	
23.	13.09.23	<b>REFRIGERATION EQUIPMENTS</b>		Principle of working and constructional details of reciprocating and rotary compressors.	1
24.	14.09.23		Centrifugal compressor only theory	1	
25.	15.09.23		Important terms. Hermetically and semi hermetically sealed compressor.	1	
26.	18.09.23		Principle of working and constructional details of air cooled and water cooled condenser	1	
27.	22.09.23		Heat rejection ratio.	1	
28.	25.09.23		Cooling tower and spray pond.	1	
29.	27.09.23		Principle of working and constructional details of an evaporator.	1	
30.	28.09.23		Types of evaporator. Bare tube coil evaporator, finned evaporator, shell and tube evaporator	1	

31.	02.10.23	<b>REFRIGERANT FLOW CONTROLS, REFRIGERENTS AND APPLICATION</b>	Capillary tube ,Automatic expansion valve Thermostatic expansion valve	1	
32.	04.10.23		Classification of refrigerants	1	
33.	05.10.23		Desirable properties of an ideal refrigerant.	1	
34.	06.10.23		Designation of refrigerant.	1	
35.	09.10.23		Thermodynamic Properties of Refrigerants.	1	
36.	11.10.23		Chemical properties of refrigerants.	1	
37.	12.10.23		commonly used refrigerants, R-11, R-12, R-22, R-134a, R-717	1	
38.	13.10.23		Substitute for CFC	1	
39.	16.10.23		cold storage, dairy refrigeration	1	
40.	18.10.23		ice plant, water cooler	1	
41.	19.10.23		<b>PSYCHOMETRIC AND COMFORT AIR CONDITIONING SYSTEM</b>	Psychometric terms	
42.	20.10.23			Adiabatic saturation of air by evaporation of water	1
43.	30.10.23			Psychometric chart and uses.	1
44.	01.11.23	Psychometric processes. Sensible heating and Cooling, Cooling and Dehumidification		1	
45.	02.11.23	Heating and Humidification		1	
46.	03.11.23	Adiabatic cooling with humidification		1	
47.	06.11.23	Total heating of a cooling process SHF, BPF,		1	
48.	08.11.23	Adiabatic mixing,		1	
49.	09.11.23	Effective temperature and Comfort chart		1	
50.	10.11.23	Solve Problems on above		1	
51.	13.11.23	<b>AIR CONDITIONING SYSTEM</b>	Factors affecting comfort air conditioning. .	1	
52.	15.11.23		Factors affecting comfort air conditioning.	1	
53.	16.11.23		Equipment used in an air-conditioning.	1	
54.	17.11.23		Classification of air-conditioning system	1	
55.	20.11.23		Winter Air Conditioning System	1	
56.	22.11.23		Winter Air Conditioning System	1	
57.	23.11.23		Solve Problems on above	1	
58.	24.11.23		Summer air-conditioning system.	1	
59.	29.11.23		Summer air-conditioning system.	1	
60.	30.11.23		Solve Problems on above	1	
			<b>Total classes</b>	<b>60</b>	

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