Name of the Faculty: P. Baskey M. Soren	Session: 2022-23
Course code.:	Course Name: R&AC
Programe: Diploma	Department: Mech. Dept.
Semester: 5th	Section:M1 & M2
Branch:MECHANICAL	

WEEK	PERIOD	UNIT	HOUR	Topic to be Covered
1	1			Definition of refrigeration and unit of refrigeration
	2			Definition of COP, Refrigerating effect
	3			Principle of working of open and closed air system of refrigeration
	4			Calculation of COP of Bell-Coleman cycle
	5	1	5	Problem on Bell-Coleman cycle
2	6			simple vapors compression refrigeration system
	7			schematic diagram of simple vapors compression refrigeration system
	8			simple vapors compression refrigeration cycle with dry saturated vapors after compression
3	9			simple vapors compression refrigeration cycle with wet vapors after compression
	10			simple vapors compression refrigeration cycle with superheated vapors after compression
	11			simple vapors compression refrigeration cycle with superheated vapors before compression
	12			simple vapors compression refrigeration cycle with sub cooling of refrigerant
	13			temperature entropy and pressure enthalpy diagramsimple vapors compression refrigeration cycle
	14			Problem on simple vapors compression refrigeration cycle
4	15	2	10	Problem on simple vapors compression refrigeration cycle
	16			Simple vapor absorption refrigeration system

5	17			Simple vapor absorption refrigeration system
	18			Practical vapor absorption refrigeration system
	19			Practical vapor absorption refrigeration system
	20			COP of an ideal vapor absorption refrigeration system
	21			Problem on ideal vapor absorption refrigeration system
	22	3	7	problem on ideal vapor absorption refrigeration system
6	23			Principle of working and constructional details of reciprocating compressors
	24			Principle of working and constructional details of rotary compressors
7	25			Centrifugal compressor, important terms, Hermetically and semi hermetically sealed compressor.
	26			Principle of working and constructional details of air cooled and water cooled condenser
	27			Heat rejection ratio, Cooling tower and spray pond
	28			Principle of working and constructional details of an evaporator
	29			Bare tube coil evaporator,finned evaporator
	30	4	8	shell and tube evaporator
8	31			EXPANSION VALVES : Capillary tube, Automatic expansion valve
	32			Thermostatic expansion valve
	33			Classification of refrigerants
9	34			Desirable properties of an ideal refrigerant.
	35			Designation of refrigerant.
	36			Thermodynamic Properties of Refrigerants, Chemical properties of refrigerants
	37			commonly used refrigerants, R-11, R-12, R-22, R-134a, R-717, Substitute for CFC
	38			Applications of refrigeration: cold storage, dairy refrigeration
	39			Applications of refrigeration: ice plant
10	40	5	10	Applications of refrigeration: water cooler ,frost free refrigerator
	41			Psychometric terms, Adiabatic saturation of air by evaporation of water
	42			Psychometric chart and uses.
11	43			Psychometric processes:Sensible heating and Cooling, Cooling and Dehumidification, Heating and Humidification
	44			Adiabatic cooling with humidification
	45			Total heating of a cooling process

12	46			SHF, BPF,Adiabatic mixing
	47			Problem on Psychometric processes
	48			Problem on Psychometric processes
	49			Problem on Psychometric processes
	50	6	10	Effective temperature and Comfort chart
13	51			Factors affecting comfort air conditioning.
	52			Equipment used in an air-conditioning
	53			Summer air-conditioning system.
	54			Summer air-conditioning system.
14	55			Winter Air Conditioning System
	56			Winter Air Conditioning System
	57			Problem on Summer air-conditioning system.
	58			Problem on Summer air-conditioning system.
	59			Problem on Winter air-conditioning system.
15	60	7	10	Problem on Winter air-conditioning system.

Signature of faculty member

Signature of i/c HOD