LESSON PLAN FOR - REFRIGERATION & AIR CONDITIONING (SESSION :- FEB- JUNE 2023)					
MECHANICAL ENGINEERING (SEMESTER - 6)					
S.NO.	MONTH	WEEK	DATE	CONTENT	REMARKS
1	Feb	3rd	16,17	1. Principles of Refrigeration 1.1 Meaning of Refrigeration 1.2 Refrigeration Methods	
		4th	20,23,24,25	1.3 Units of Refrigeration 1.4 Reversed Carnot cycle, 1.5 Heat pump 1.6 Coefficient of Performance	
		5th	27	1.7 Rating of refrigeration machines	
2	March	1st	2,3,4	2. Refrigeration Systems 2.1 Air refrigeration cycle- applications and its limitations. 2.2 Vapour Compression Cycle 2.3 Effect of sub cooling and super heating	
		2nd	6,9,10	2.4 Departure of Actual vapour compression cycle from theoretical cycle 2.5 Effect of varying condensing and suction temperature on coefficient of performance, 2.6 Simple mathematical calculation with pressure-entralpy charts	
		3rd	13,16,17,18	2.7 Vapour Absorption cycle. 2.8 Actual vapour absorption cycle and application., 3. Refrigerants 3.1 Important properties of a refrigerant	CT1
		4th	20,23,24,25	3.2 Properties and applications of commonly used refrigerants such as R11,R12, R22, NH3 and Water. 3.3 Newer Refrigerants, 4. Refrigeration System, Components and Controls	
		5th	27,31	4.1 Function, types, specification and constructional details ofcomponents such as compressor, condenser, throttling device,evaporator, oil separator, accumulator, header.	
3	April	1st, 2nd	1,3,6	4.2 Various controls- Solenoid Valve, thermostat, low pressure/highpressure cut out, oil safety switch	
		3rd	10,13	5. Psychrometry 5.1 Various terms-Dry and wet bulb temperatures,Saturation, Dewpoint, adiabatic saturation, temperature, Relative humidity,absolute humidity, humidity ratio. 5.2 Psychometric chart and its uses	CT2
		4th	17,20,21	5.3 Psychometric processes-Sensible heating and sensible cooling, humidification and dehumidification, cooling and dehumidification,heating and humidification, and their representation onpsychometric chart.	
		5th	24,27,28,29	5.4 Simple Problems on Psychrometric processes 6. Airconditioning 6.1 Introduction 6.2 Metabolism in human body	
4	May	1st	1,4,6	6.3 Human comfort 6.4 Applications of air-conditioning, 7. Heat Loads 7.1 Various types of loads	
		2nd	8,11,12	House Test	
		3rd	15,18,19,20	7.2 Sensible and latent heat load 7.3 Load calculations	
		4th	25,26,27	8. Airconditioning System 8.1 Description of room air conditioner , 8.2 Central air-conditioning system	
		5th	29	8.3 Round the year air conditioning system	
5	June	1st	1,2,3	8.4 Air distribution systems: concept of filter, damper, fan, blower, air register and diffuser	
		2nd	5,8,9	9. Miscellaneous Topics 9.1 Evaporative cooling - Principle, Desert air cooler	

HOD, ME

Sumit Sharma
(Sr. Lecturer Mech. Engg.)