Lesson plan

Name of the faculty : SH. AMIT
Discipline : Mechanical Engg.
Sem. : 5th
Subject : R.A.C

Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
Week 1	1st	**Fundamentals of Refrigeration-** Introduction to refrigeration, and air conditioning	1st	Introduction to the subject, why we should study it?
	2nd	Meaning of refrigerating effect, units of refrigeration	2nd	Applications in industry, Scope, factors affecting it.
	3rd	COP, Methods of refrigeration.		
	4th	Methods of refrigeration		
Week 2	1st	Introduction to air refrigerator working on reversed carnot cycle	1st	Identify various tools of refrigeration kit and practice in cutting, bending, flaring, swaging and brazing of tubes.
	2nd	**Vapour Compression System-** Introduction, principle, function	2nd	Identify various tools of refrigeration kit and practice in cutting, bending, flaring, swaging and brazing of tubes.
	3rd	parts and necessity of vapour compression system		
	4th	T- S and p– H charts,		
Week 3	1st	Dry, wet and superheated compression	1st	Practice
	2nd	Effect of sub cooling, super heating,		
	3rd	Mass flow rate, entropy, enthalpy, work done	2nd	Practice
	4th	Refrigerating effect and COP		
Week 4	1st	Actual vapour compression system	1st	Study of thermostatic switch, LP/HP cut out overload protector filters, strainers and filter driers.
	2nd	Revision		
	3rd	Assignment & Mock Test		Study of thermostatic switch,

	4th	**Refrigerants**-Functions, classification of refrigerants	2nd	LP/HP cut out overload protector filters, strainers and filter driers.
Week 5	1st	properties of R - 717, R – 22	1st	Identify various parts of a refrigerator and window air conditioner.
	2nd	Properties of R--134 and CO_2.		
	3rd	Properties of ideal refrigerant	2nd	Identify various parts of a refrigerator and window air conditioner.
	4th	Selection of refrigerant		
Week 6	1st	**Vapour Absorption System-** Introduction, principle and working of simple absorption system	1st	Practice
	2nd	Domestic Electrolux refrigeration systems.		
	3rd	Solar power refrigeration system	2nd	Practice
	4th	Advantages and disadvantages of solar power refrigeration system over vapour compression system		
Week 7	1st	Assignment & Revision	1st	To find COP of Refrigeration system
	2nd	Test		
	3rd	**Refrigeration Equipment-** Compressor – Function	2nd	To find COP of Refrigeration system
	4th	Various types of compressors		
Week 8	1st	Condenser & its Function	1st	To detect trouble/faults in a refrigerator/window type air conditioner
	2nd	Various types of condensers		
	3rd	Evaporator & its Function	2nd	To detect trouble/faults in a refrigerator/window type air conditioner
	4th	Various types of evaporators		
Week 9	1st	Expansion Valve & its Function	1st	Practice
	2nd	Capillary tube, thermostatic expansion valve		
	3rd	low side and high side float valves	2nd	Practice
	4th	Application of various expansion valves		
Week 10	1st	Safety Devices-Thermostat	1st	Charging of a refrigerator/window type air conditioner.
	2nd	Overload protector, LP, HP cut out switch.		
	3rd	Revision	2nd	Charging of a refrigerator/window type air conditioner.
	4th	Assignment & Mock Test		

Week 11	1st	**Psychrometry-** Definition, importance, specific humidity, relative humidity	1st	Study of cut section of single cylinder compressor
	2nd	Degree of saturation, DBT, WBT, DPT,		
	3rd	Sensible heat, latent heat, Total enthalpy of air	2nd	Study of cut section of single cylinder compressor
	4th	Psychrometry chart		
Week 12	1st	Various processes of psychrometry	1st	Practice
	2nd	Problems		
	3rd	Mock Test	2nd	Practice
	4th	Revision		
Week 13	1st	**Air-Conditioner-** Study of window air-conditioning	1st	Visit to an ice plant, cold storage plant, central air conditioning plant
	2nd	Split type air conditioning,		
	3rd	Concept of central aircondition	2nd	Visit to an ice plant, cold storage plant, central air conditioning plant
		Automobile air-conditioning		
Week 14	1st	Comparison Split A.C with Window A.C.	1st	Practice & VIVA
	2nd	Appliction OF AC		
	3rd	Revision	2nd	Practice & VIVA
	4th	Test		
Week15	1st	Revision	1st	Practice & VIVA
	2nd	Revision		
	3rd	Revision	2nd	Practice & VIVA
	4th	Revision		