

Dicipline:	Mechanical	Semester: 5th	Name of the Teaching Faculty: Babita Mehera	
Subject: R.A.C	No of Days/Week Class Allotted: 4	Semester From date: 15/09/22 To date: 21/01/23	No. of Weeks:	

WEEK	Class Day	Theory Topics
1	1st	Definition of refrigeration & unit of refrigeration
	2nd	Definition of C.O.P, refrigerating effect
	3rd	Principle of working of open & closed air system of refrigeration
	4th	Calculation of C.O.P of Bell-Coleman cycle & numericals on it.
	5th	
2	1st	Diagram of simple vapour comp <sup>n</sup> system
	2nd	Types of vapour comp <sup>n</sup> system.
	3rd	Cycles with dry saturated vapours & wet vapours after comp <sup>n</sup> .
	4th	Cycle with superheated vapour before & after comp <sup>n</sup> .
	5th	
3	1st	Cycles with sub-cooling of refrigerant.
	2nd	Representation of above cycles on temp-entropy & pressure enthalpy diagram
	3rd	Numericals on above
	4th	Simple vapour absorption refrigeration system
	5th	



# Theory Topics

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WEEK

WEEK	Class Day	Theory Topics
A	1st	Practical vapour absorption refrigeration system
	2nd	COP of an ideal vapour absorption refrigeration system
	3rd	Numericals on C.O.P.
	4th	Principles of working & construction details of R.A.C.
	5th	
5	1st	Centrifugal compressor (only theory)
	2nd	Imp. terms
	3rd	Hermetically & semi-hermetically sealed compressor.
	4th	Principle of working & construction details of air cooled & water cooled condenser.
	5th	
6	1st	Heat rejection ratio
	2nd	Cooling tower & spray pond.
	3rd	Principle of working & constructional details of an evaporator.
	4th	Types of evaporators.
	5th	



Topic: Mechanical	Semester: 5th	Name of the Teaching Faculty: Babita Meher	
Subject: R.A.C	No of Days/Week Class Allotted: 1	Semester From date: 15/09/22 To date: 21/01/23	No. of Weeks:

WEEK	Class Day	Theory Topics
7	1st	Basic tube coil evaporator, Finned evaporator, Shell & tube evaporator
	2nd	Capillary tube
	3rd	Automatic expansion valve
	4th	Thermo-static expansion valve
	5th	
8	1st	Classification of refrigerants
	2nd	Desirable properties of an ideal refrigerant
	3rd	Designation of refrigerant.
	4th	Thermodynamic properties of refrigerant.
	5th	
9	1st	Chemical properties of refrigerant.
	2nd	Commonly used refrigerants R-11, R-12, R-22, R-134a, R-717
	3rd	Substitute of CFC
	4th	Cold storage
	5th	



# Theory Topics

WEEK	Class Day	Topic
10	1st	Dairy refrigeration
	2nd	Ice plant
	3rd	Water cooler
	4th	Frost free refrigerator
	5th	
11	1st	Psychrometric terms
	2nd	Adiabatic saturation of air by evaporation of water.
	3rd	Psychrometric chart & uses
	4th	Psychrometric process
	5th	
12	1st	Sensible heating & cooling
	2nd	Cooling & dehumidification
	3rd	Heating & humidification
	4th	Simple numericals on above
	5th	

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Subject:



Discipline: Mechanical	Semester: 5th	Name of the Teaching Faculty: Pabeta Meher	
Subject: R.A.C	No of Days/Week Class Allotted: 1	Semester From date: 15/09/22 To date: 21/01/23	No. of Weeks:

WEEK	Class Day	Theory Topics
13	1st	Adiabatic cooling & humidification
	2nd	Total heating of a cooling process.
	3rd	S.H.F & B.P.F
	4th	Adiabatic mixing
	5th	
14	1st	Numericals on above.
	2nd	Effective temp. & comfort chart
	3rd	Factors affecting comfort air-conditioning.
	4th	Equipments used in air-conditioning
	5th	
15	1st	Classification of A.C systems
	2nd	Winter A.C systems
	3rd	Summer A.C systems
	4th	Numericals on above.
	5th	Satyajit Acharya