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Lecture Plan-1

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E
Subject:-R.A.C Unit:-

S. No.	Topic :-Syllabus	Time Allotted:-
1.	Introduction: Introduction about self & students and DCE teaching methodology	5 Min
2	Division of the Topic Self introduction Introduction of students Subject description and importance Unit wise Syllabus description Book referred	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Asked about the subject text book references? Question bank? Pattern of question could be asked in exam? Practical application of subject?	5 Min

Assignment to be given:-

Reference Readings:-

1. A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2. A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3. A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

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Lecture Plan-2

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-I

S. No.	Topic :-Refrigeration and Air Conditioning	Time Allotted:-
1.	Introduction Concept of refrigeration and air conditioning Importance of refrigeration and air conditioning	5 Min
2	Division of the Topic Definition of refrigeration and air conditioning Necessity of refrigeration and air conditioning Application of refrigeration and air conditioning	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer What are the basic difference between the refrigeration and air conditioning? What are the various Necessity and application of refrigeration and air conditioning	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

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Lecture Plan -3

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-I

S. No.	Topic :- Refrigeration and Air Conditioning	Time Allotted:-
1.	Introduction Concept of refrigeration and air conditioning	 5 Min
2	Division of the Topic Methods of refrigeration Unit of refrigeration Coefficient of performance (COP)	 35 Min
3.	Conclusion Above topics to be discussed.	 5 Min
4	Question / Answer What Are the various methods of refrigeration and air conditioning?	 5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

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Lecture Plan -4

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-I

S. No.	Topic :- Refrigeration and Air Conditioning	Time Allotted:-
1.	Introduction Concepts Refrigerants Necessity and application of refrigerants.	5 Min
2	Division of the Topic Fundamental of air conditioning system: Refrigerants Definition. Classification of refrigerants	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Define refrigerant & classify them?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan-5

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-I

S. No.	Topic :- Refrigeration and Air Conditioning	Time Allotted:-
1.	Introduction Refrigerants properties and nomenclature	5 Min
2	Division of the Topic Nomenclature of refrigerants Desirable properties of refrigerants Comparative study of refrigerants Secondary refrigerants.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain the various important properties of refrigerants. What are the various important secondary refrigerants.?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -6

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-I

S. No.	Topic :- Refrigeration and Air Conditioning	Time Allotted:-
1.	Introduction Concept to eco-friendly Refrigerants Need and application of eco friendly refrigerants. Concept of Cryogenics	5 Min
2	Division of the Topic Important properties of eco friendly refrigerants. Nomenclature of eco friendly refrigerants. Application of eco friendly refrigerants. Advantages of eco friendly refrigerants. Cryogenics definition and application	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain the ecofrindly refrigerants with need and application? Explain the cryogenics system with need and application?	5 Min

Assignment to be given:- Definition and difference between of refrigeration and air conditioning, Necessity of refrigeration and air conditioning, desirable properties of refrigerants, cryogencs, secondary refrigerants

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

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Lecture Plan -7

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-I

S. No.	**Topic** :- **Air Refrigeration Systems**	**Time Allotted:-**
1.	Introduction Concept of air refrigeration systrem	5 Min
2	Division of the Topic Air Refrigeration Systems Carnot refrigeration cycle. Temp. Limitations Brayton refrigeration or the Bell Coleman air refrigeration cycle	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer What are the various limitations of reversed car not cycle? Explain the necessity of air refrigeration system. Explain the reversed brayton cycle and bell Coleman cycle. And derive the expression for efficiency.	5 Min

Assignment to be given:-
Brayton refrigeration or the Bell Coleman air refrigeration cycle

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

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Lecture Plan-8

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-II

S. No.	Topic :-Air craft refrigeration system	Time Allotted:-
1.	Introduction Concept of Air craft refrigeration system Necessity of cooling of aircraft system Application	5 Min
2	Division of the Topic Necessity of cooling the aero-plane Air-craft refrigeration system with Simple cooling Air-craft refrigeration system with Simple cooling evaporative types Advantages and disadvantages of system with Simple cooling evaporative types.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain the Air-craft refrigeration system with Simple cooling evaporative types? Advantages and disadvantages of system with Simple cooling evaporative types?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -9

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-II

S. No.	Topic :- Air craft refrigeration system	Time Allotted:-
1.	Introduction Concept of Boot strap and Boot strap evaporative types, Regenerative type	5 Min
2	Division of the Topic Air-craft refrigeration system with Boot strap and Boot strap evaporative type system. Air-craft refrigeration system with Regenerative type system Advantages and disadvantages of Boot strap, Boot strap evaporative types & Regenerative type Air craft refrigeration system.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Air-craft refrigeration system with Boot strap and Boot strap evaporative type system? Air-craft refrigeration system with Regenerative type system?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

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Lecture Plan -10

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-II

S. No.	Topic :- Air craft refrigeration system	Time Allotted:-
1.	Introduction Concept of Reduced Ambient type systems.	5 Min
2	Division of the Topic Air-craft refrigeration system with Reduced Ambient type systems Advantages and disadvantages of Reduced Ambient type systems Comparison of different systems problems	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain with neat diagram Air-craft refrigeration system with Reduced Ambient type systems and derive the expression for efficiency?	5 Min

Assignment to be given:- Necessity of cooling the aero-plane,Air-craft refrigeration system with simple cooling, Simple cooling evaporative, Boot strap and Boot strap evaporative type system. Regenerative type system Reduced Ambient type systems Comparison of different system

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -11

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-III

S. No.	Topic :-Vapor compression syst em	Time Allotted:-
1.	Introduction Basic Concept of simple Vapor Compression (SVC) Refrigeration Systems	5 Min
2	Division of the Topic Introduction of simple vapor compression system. Explanation with Diagram T-S diagram, P-H diagram & P-V diagram	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain the simple vapor compression system with T-S diagram, P-H diagram & P-V diagram	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -12

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:III

S. No.	Topic :- Vapor compression syst em	Time Allotted:-
1.	Introduction Concept of Reversed Carnot cycle with vapor as the refrigerant	5 Min
2	Division of the Topic Reversed Carnot cycle with vapor as the refrigerant Limitations of Reversed Carnot cycle with vapor as the refrigerant	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Limitations of Reversed Carnot cycle with vapor as the refrigerant?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -13

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-III

S. No.	Topic :- Vapor compression syst em	Time Allotted:-
1.	Introduction Concept of vapor compression system with sub cooling and superheating	5 Min
2	Division of the Topic Analysis of VC cycle considering degrees of sub cooling and superheating SVC cycle on p-v, t-s and p-h diagrams.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer What are the various modification of simple vapor compression system to improve their efficiency ?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -14

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-III

S. No.	Topic :-Vapor compression system	Time Allotted:-
1.	Introduction Effects of sub cooling, superheating, flash chamber, and intercooling.	5 Min
2	Division of the Topic Effects of sub cooling , super heating and intercooling on COP and operating condition Comparison of VC cycle with Air Refrigeration's cycle	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer What are the Effects of sub cooling, super heating and intercooling on COP and operating condition? Explain the Comparison of VC cycle with Air Refrigeration's cycle?	5 Min

Assignment to be given:- Analysis of VC cycle considering degrees of sub cooling and superheating SVC cycle on p-v, t-s and p-h diagrams. Effects of sub cooling, super heating and intercooling on COP and operating condition Comparison of VC cycle with Air Refrigeration's cycle

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

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Lecture Plan-15

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-III

S. No.	Topic :-Compound vapor compression system	Time Allotted:-
1.	Introduction Concept of compound vapor compression system. Necessity and application	5 Min
2	Division of the Topic Multi Stage Ref. Systems – Necessity of compound compression, Compound VC- Cycle Intercooling with liquied sub – cooler & / or water inter-cooler	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain the Compound VC- Cycle Intercooling with liquied sub – cooler & / or water inter-cooler?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -16

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-III

S. No.	Topic :-Multi stage compression system	Time Allotted:-
1.	Introduction Concept of Multistage compression with flash intercooling and/or water intercooling. Need and application	5 Min
2	Division of the Topic Concept of Multistage compression with flash intercooling and/or water intercooling Neat diagram T-S and P-H diagram. Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain Multistage compression with flash intercooling and/or water intercooling With Neat diagram T-S and P-H diagram.?	5 Min

Assignment to be given:-
Concept of Multistage compression with flash intercooling and/or water intercooling
Neat diagram T-S and P-H diagram

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -17

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-III

S. No.	**Topic :-** Multiple evaporator systems	**Time Allotted:-**
1.	Introduction Concept of Multiple evaporator systems Need and application	5 Min
2	Division of the Topic Multiple evaporator systems with neat diagram Dual Compression systems with individuals or multiple expansion values Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Multiple evaporator systems with neat diagram?	5 Min

Assignment to be given:-
Multiple evaporator systems with neat diagram

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -18

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-III

S. No.	Topic :-Multiple Expansion system	Time Allotted:-
1.	Introduction Concept of Multiple Expansion system Need and application	5 Min
2	Division of the Topic Individual's compression systems with individuals or multiple expansion valves but with and without Intercoolers	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Individual's compression systems with individuals or multiple expansion valves but with and without Intercoolers?	5 Min

Assignment to be given:- Individual's compression systems with individuals or multiple expansion valves but with and without Intercoolers

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -19

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-IV

S. No.	Topic :-Other Refrigeration System	Time Allotted:-
1.	Introduction Concept of Vapor Absorption refrigeration systems Need and application	5 Min
2	Division of the Topic Vapor Absorption refrigeration systems Neat diagram with TS diagram Need and application Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain Vapor Absorption refrigeration systems with neat diagram with TS diagram?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -20

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-IV

S. No.	Topic :-Steam Jet Refrigeration system	Time Allotted:-
1.	Introduction Concept of Steam Jet Refrigerating System-	5 Min
2	Division of the Topic Steam Jet Refrigerating System Working principle Neat diagram with TS diagram Application & need Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Steam Jet Refrigerating System? Working principle? Neat diagram with TS diagram?	5 Min

Assignment to be given:- Vapor Absorption refrigeration systems , Steam Jet Refrigerating System

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -21

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-V

S. No.	Topic :-Psychometric	Time Allotted:-
1.	Introduction Concept of Psychometric Need and application	5 Min
2	Division of the Topic Properties of moist air – Gibbs Dalton law, Specific humidity, dew point temperature, degree of saturation, dry bulb temperature Relative humidity, Enthalpy, humid specific heat, wet bulb temperature.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain Specific humidity, dew point temperature, degree of saturation, dry bulb temperature Relative humidity, Enthalpy, humid specific heat, wet bulb temperature?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -22

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-V

S. No.	**Topic :-** Psychometric	**Time Allotted:-**
1.	Introduction Concept of Psychometric chart Application of Psychometric chart	5 Min
2	Division of the Topic Psychometric chart ,application Psychometric of air conditioning processes Mixing process, basic process in conditioning of air Psychometric process in air washer.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Mixing process, basic process in conditioning of air? Psychometric process in air washer?	5 Min

Assignment to be given:- Psychometric chart ,application ,Psychometric of air conditioning processes, Mixing process, basic process in conditioning of air, Psychometric process in air washer.

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -23

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VI

S. No.	Topic :-Air- Conditioning	Time Allotted:-
1.	Introduction Concept of Air Conditioning Load Calculation: Need and application	5 Min
2	Division of the Topic Air Conditioning Load Calculation: Out side and inside design Conditions, source of heating load, sources of cooling load.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Air Conditioning Load Calculation: Out side and inside design? Conditions, source of heating load, sources of cooling load.?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -24

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VI

S. No.	Topic :- Air- Conditioning	Time Allotted:-
1.	Introduction Concept of Heat transfer through structure, solar radiation, electric appliances.	5 Min
2	Division of the Topic Heat transfer through structure Solar radiation Electric appliances.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Heat transfer through structure Solar radiation? Electric appliances?	5 Min

Assignment to be given:-
Concept of Heat transfer through structure, solar radiation, electric appliances.

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -25

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VI

S. No.	Topic :-Air-Conditioning	Time Allotted:-
1.	Introduction Heat/cooling load procedure for Air conditioning	 5 Min
2	Division of the Topic Heat transfer through infiltration and ventilation Heat generation inside conditional space Apparatus selection., comfort chart	 35 Min
3.	Conclusion Above topics to be discussed.	 5 Min
4	Question / Answer Heat/cooling load procedure for Air conditioning	 5 Min

Assignment to be given:- Heat/cooling load procedure for Air conditioning

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -26

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VII

S. No.	Topic :- Air Conditioning Systems With Controls &Accessories	Time Allotted:-
1.	Introduction	
	Controls of air conditioning system Accessories of air conditioning system	5 Min
2	Division of the Topic	
	Classification Layout of plants Equipment selection Air distribution systems Duct system design	35 Min
3.	Conclusion	
	Above topics to be discussed.	5 Min
4	Question / Answer	
	Explain the air distribution system, and what do you mean by duct system design?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -27

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VII

S. No.	Topic :- Air Conditioning Systems With Controls &Accessories	Time Allotted:-
1.	Introduction General review of previous lecture	5 Min
2	Division of the Topic Filters Refrigerant piping Design of summer air conditioning system. Design of winter air conditioning system.	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain with neat diagram, Design of summer air conditioning system? Design of winter air conditioning system?	5 Min

Assignment to be given:-
Design of summer air conditioning system.
Design of winter air conditioning system

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -28

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VII

S. No.	Topic :- Air Conditioning Systems With Controls &Accessories	Time Allotted:-
1.	Introduction Concept need and application of various control system and accessories.	5 Min
2	Division of the Topic Temperature sensors, Pressure sensors Actuators , Safety controls & accessories	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain with neat diagram various control system and accessories?	5 Min

Assignment to be given:-
Explain with neat diagram various control system and accessories?

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -29

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VIII

S. No.	Topic :- Refrigeration and air conditioning equipment	Time Allotted:-
1.	Introduction Refrigeration and air conditioning equipment	5 Min
2	Division of the Topic Refrigeration and air conditioning equipment Application and necessity	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan 30

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VIII

S. No.	Topic: - Refrigeration and air conditioning equipment	Time Allotted:-
1.	Introduction Concept of compressor Need and application Type of compressors and their performance curves	5 Min
2	Division of the Topic Diagram and working principle Type of compressors and their performance curves Application Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Classify the compressor and explain them with neat sketches?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -31

Faculty: - Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VIII

S. No.	Topic :- Refrigeration and air conditioning equipment	Time Allotted:-
1.	Introduction Basic concepts Types of condensers, heat transfer in condensers.	5 Min
2	Division of the Topic Diagram and working principle Type of condensers and their performance curves Application Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Discuss Types of condensers, heat transfer in condensers?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -32

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VIII

S. No.	Topic :- Refrigeration and air conditioning equipment	Time Allotted:-
1.	Introduction Concepts of Types of expansion devices and their explanation	5 Min
2	Division of the Topic Diagram and working principle Type of expansion device and their performance curves Application Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Types of expansion devices and their explanation?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan-33

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VIII

S. No.	Topic :- Refrigeration and air conditioning equipment	Time Allotted:-
1.	Introduction Concept of types of evaporators, application and explanation	5 Min
2	Division of the Topic Diagram and working principle Type of evaporators and their performance curves Application Advantages and disadvantages	35 Min
3.	Conclusion Above topics to be discussed.	5 Min
4	Question / Answer Explain the Concept of types of evaporators, application and explanation?	5 Min

Assignment to be given:-

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora

Lecture Plan -34

Faculty:- Semester:-VII C lass:-M.E Course Code:-M.E.-403-E

Subject:-R.A.C Unit:-VIII

S. No.	Topic: - Refrigeration and air conditioning equipment	Time Allotted:-
1.	Introduction Cooling and dehumidifying coils	 5 Min
2	Division of the Topic Diagram and working principle Type of cooling and dehumidifying coil and their performance curves. Application Advantages and disadvantages	 35 Min
3.	Conclusion Above topics to be discussed.	 5 Min
4	Question / Answer Cooling and dehumidifying coils	 5 Min

Assignment to be given:-Explain with neat diagram with their classification, Compressor, condenser, evaporator, and expansion device.

Reference Readings:-

1 A Text Book of Refrigeration and Air Conditioning—R.S.Khurmi & J.K.Gupta
2 A Text Book of Refrigeration and Air Conditioning-P.L.Ballaney
3 A Text Book of Refrigeration and Air Conditioning-Domkundwar & Arora