

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF  
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN  
Session-2022-2023

Discipline: Mechanical Engg. Semester: 5<sup>th</sup>

Name of the Teaching Faculty: Saytosh Panda



Subject: RAC No. of Days/per week class allotted 04

Semester From Date: 15/9/22 To Date: 22/12/22 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
1	1	Introduction of refrigeration & unit of refrigeration.
	2	COP definition & Refrigeration Effect.
	3	Open & closed air system
	4	Bell-Coleman cycle & its COP
2	1	Numerical practice of Bell Coleman cycle.
	2	Simple vapour refrigeration system & its figure.
	3	Types of simple vapour refrigeration system.
	4	Cycle of dry saturated vapour after compression
3	1	Cycle of wet vapour after compression.
	2	Cycle of superheated vapour after compression.
	3	Sub-cooling of refrigerant.
	4	Problem related to above cycle.

*Saytohy Payda*  
Signature of the Faculty



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Week	Class Day	Theory / Practical Topics
4	1	T-s & P-h diagram of above cycle.
	2	Determination of COP & Mass flow rate
	3	Previous year question on this chapter discussion.
	4	Introduction to simple vapour absorption system.
5	1	Brief discussion of S.V.A.S
	2	Practical vapour absorption system.
	3	How S.V.A.S is differ from P.V.A.S
	4	COP of both S.V.A.S & P.V.A.S
6	1	COP of ideal vapour absorption system
	2	Numerical of above system
	3	Principle of reciprocating compressor.
	4	Working of rotary compressor

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Week	Class Day	Theory / Practical Topics
7	1	Principle of centrifugal compressor.
	2	Working & details of centrifugal compressor.
	3	Important terms in rotary and reciprocating comp.
	4	Hermetically sealed compressor.
8	1	Semi-hermitically sealed compressor.
	2	Previous yr question on this topic discussion.
	3	Details of expansion valve & capillary tube.
	4	Automatic expansion valve.
9	1	Thermostatic expansion valve.
	2	Refrigerant classification.
	3	Properties of ideal refrigerant.
	4	Thermodynamic properties of refrigerant.

*Sanjay Panda*  
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Week	Class Day	Theory / Practical Topics
10	1	Cold Storage.
	2	Dairy refrigerator.
	3	ICE Plant.
	4	Water cooled & Frost free refrigerator.
11	1	Psychometric terms.
	2	Adiabatic saturation of air by evaporation of water.
	3	Psychometric chart & use.
	4	Psychometric process.
12	1	Sensible heating & cooling
	2	Heating & humidification
	3	Adiabatic cooling with humidification.
	4	Total heating of a cooling process.

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Week	Class Day	Theory / Practical Topics
13	1	Adiabatic Mixing
	2	COMFORT Chart.
	3	COMFORT air conditioning
	4	factor that effect C.A.C
14	1	Details of A.C
	2	Parts used in an A.C
	3	Types of A.C
	4	Winter air conditioning.
15	1	Summer Air conditioning.
	2	Numerical of above TOPIC
	3	Previous yr. question discussion on this topic
	4	Previous year question discussion

*Santosh Panda*  
Signature of the Faculty