

UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA

Academic Lesson Plan for Winter Semester- 2022

Name of the Teaching Faculty: Er. Amiya Ranjan Patra	Department: Mechanical Engineering
Semester: 5th	Subject: REFRIGERATION & AIR CONDITIONING
No. of Periods per Week: 4	Total Periods: 60
End Semester Exam: 80	Class Test: 20
Total Marks: 100	Theory - 5

Sl. No.	Week	Period	Topic to be covered
1.	1 st	1 st	Definition of refrigeration and unit of refrigeration
2.		2 nd	Definition of COP, Refrigerating effect (R.E)
3.		3 rd	Principle of working of open and closed air system of refrigeration.
4.		4 th	Calculation of COP of Bell-Coleman cycle
5.	2 nd	1 st	Solve Numerical
6.		2 nd	schematic diagram of simple vapors compression refrigeration system'
7.		3 rd	About Types
8.		4 th	Cycle with dry saturated vapors after compression.
9.	3 rd	1 st	Cycle with wet vapors after compression.
10.		2 nd	Cycle with superheated vapors after compression.
11.		3 rd	Cycle with superheated vapors before compression.
12.		4 th	Cycle with sub cooling of refrigerant
13.	4 th	1 st	Representation of above cycle on temperature entropy and pressure enthalpy diagram
14.		2 nd	Solve Numerical
15.		3 rd	Do
16.		4 th	Simple vapor absorption refrigeration system
17.	5 th	1 st	Practical vapor absorption refrigeration system
18.		2 nd	Do
19.		3 rd	COP of an ideal vapor absorption refrigeration system
20.		4 th	Do
21.	6 th	1 st	Numerical on COP.
22.		2 nd	Do
23.		3 rd	About Refrigerant Compressor
24.		4 th	Do
25.	7 th	1 st	Do
26.		2 nd	Do
27.		3 rd	About Condenser
28.		4 th	Do
29.	8 th	1 st	About Evaporators
30.		2 nd	Do
31.		3 rd	About Expansion Valve

32.		4 th	Do
33.	9 th	1 st	About Refrigerant
34.		2 nd	Desirable properties of an ideal refrigerant.
35.		3 rd	Designation of refrigerant.
36.		4 th	Thermodynamic Properties of Refrigerants.
37.	10 th	1 st	Chemical properties of refrigerants.
38.		2 nd	commonly used refrigerants, R-11, R-12, R-22, R-134a, R-717
39.		3 rd	Substitute for CFC
40.		4 th	About Application
41.	11 th	1 st	About Psychometric terms
42.		2 nd	Adiabatic saturation of air by evaporation of water
43.		3 rd	Psychometric chart and uses.
44.		4 th	Psychometric processes
45.	12 th	1 st	Do
46.		2 nd	Do
47.		3 rd	Do
48.		4 th	Solve numerical
49.	13 th	1 st	Do
50.		2 nd	Effective temperature and Comfort chart
51.		3 rd	Factors affecting comfort air conditioning. .
52.		4 th	Equipment used in air-conditioning.
53.	14 th	1 st	Do
54.		2 nd	Classification of air-conditioning system
55.		3 rd	Winter Air Conditioning System
56.		4 th	Summer air-conditioning system.
57.	15 th	1 st	Do
58.		2 nd	Solve Numerical
59.		3 rd	Do
60.		4 th	Do

The above lesson plan prepared by the concerned faculty.

Er. Amiya Ranjan Patra

PTGF, MECHANICAL DEPARTMENT