

COURSE OUTCOME ASSESSMENT AND ATTAINMENT (R16)

COURSE NAME: REFRIGERATION AND AIR CONDITIONING

CODE: R1632033

COURSE OUTCOMES: Students are able to

CO	STATEMENT
CO1	Analyse various refrigerating cycles and evaluate their performance
CO2	Explain vapour compression refrigeration cycles with representation of T-S and p-H charts
CO3	Identify refrigerants and various refrigerating components
CO4	Explain vapour absorption refrigerating system and working of steam jet refrigerating system
CO5	Illustrate psychrometric properties, processes for human comfort.
CO6	Identify various air conditioning components

MAPPING CO'S WITH PO'S

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	-	-	-	1	-	-	-	-	-	2	-	2
CO2	3	2	-	3	-	1	-	-	-	-	-	2	-	2
CO3	2	-	-	-	-	2	-	-	-	-	-	-	-	1
CO4	3	1	-	1	-	1	-	-	-	-	-	-	-	-
CO5	3	1	-	3	-	-	-	-	-	-	-	-	-	2
CO6	2	-	-	2	-	-	-	-	-	-	-	-	-	-
Avg.	2.83	1.5	-	2.25	-	1.25	-	-	-	-	-	2	-	1.75

MAPPING COURSE WITH PO'S

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
R&AC	2.83	1.5	-	2.25	-	1.25	-	-	-	-	-	2	-	1.75

COURSE OUTCOME RUBRIC

Course	Assessment Methods with weightage	Method	Attainment Level 1 (Average)	Attainment Level 2 (Good)	Attainment Level 3 (Excellent)
Theory Course Outcome	Internal tests (40%)	Direct	60% of students scoring 16 marks and above out of 30 marks	70% of students scoring 16 marks and above out of 30 marks	80% of students scoring 16 marks and above out of 30 marks
	University Average Mark (60%)	Direct	50% students scoring more than or equal to grade D	60% students scoring more than or equal to grade D	70% students scoring more than or equal to grade D

MEASURING CO ATTAINMENT THROUGH INTERNAL ASSESSMENTS		
INTERNAL TEST		
Attainment	:	69 out of 78 students got more than 16 Marks (80% students scoring 16 marks and above out of the 30 marks) marks. So, 88.4% of students got marks more than target marks.
Attainment level	:	3
MEASURING COURSE OUTCOMES ATTAINED THROUGH UNIVERSITY EXAMINATIONS (DIRECT METHOD)		
Attainment	:	53 out of 78 students got more than grade D (60% students scoring more than or equal to grade D) marks. So, 67.9 % of students got marks more than target marks
Attainment level	:	2

Total Attainment of refrigeration and air conditioning Theory Course

Assessment Tool with weight age	Method	Level of attainment			
		3	2	1	0
Internal Exam (40%)	Direct	3			
University Exam (60%)	Direct		2		

Course Attainment = $0.4 \times 3 + 0.6 \times 2 = 2.4$. Since the attained level (**2.4**) is equal the target level (**2.4**), all specified outcomes are achieved.

Course-PO Attainment for REFRIGERATION AND AIR CONDITIONING:

Final PO attainment value = $\frac{CO-PO \text{ Mapping Average} \times \text{Course Attainment Value}}{3}$

Final COURSE Attainment WITH PO'S

Final Course PO attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO& PO MAPPING	2.83	1.5	-	2.25	-	1.25	-	-	-	-	-	2	-	1.75
Final Course Attainment	2.264	1.2	-	1.8	-	1	-	-	-	-	-	1.6	-	1.4