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Code No. : 14118 N(F)

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (CBCS) IV-Semester Main Examinations, May-2019

Basics of Refrigeration and Air Conditioning
 (Open Elective-II)

Time: 2 hours

Max. Marks: 40

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Q.No.	Stem of the question	M	L	CO	PO
Part-A (5×2 = 10 Marks)					
1.	List any four eco friendly refrigerants.	2	1	1	6
2.	Define COP and Refrigerant.	2	1	1	1
3.	Name any two refrigerants used in Split Air conditioner.	2	3	2	6
4.	Distinguish between summer and winter air conditioning systems.	2	4	2	1
5.	List different equipment used in central air conditioning system.	2	1	2	1
Part-B (5×6 = 30 Marks)					
6. a)	Show that $COP_{HP} = COP_R + 1$	3	2	1	1
b)	Classify the refrigerants.	3	3	1	1
7. a)	List different parts of Vapour Compression Refrigeration system and write their function.	3	1	1	1
b)	Distinguish between refrigeration and air conditioning.	3	4	1	1
8. a)	Sketch Water cooler and describe its working.	4	1	1	1
b)	Define Ton of Refrigeration and Convert 12.5TR into kW & kJ/min.	2	1	1	1
9. a)	Explain the working of any one Psychrometer with a sketch.	4	2	2	1
b)	Sketch and explain summer Air conditioning process.	2	1	2	1
10. a)	Sketch and explain cooling & dehumidification process on psychrometry chart.	4	1	2	1
b)	Explain bypass factor for a cooling coil.	2	4	2	1
11. a)	Illustrate the working of window air conditioning system with a sketch.	4	2	2	1
b)	Sketch i) Sensible heating process ii) Humidification process on psychrometry chart.	2	1	2	1
12. a)	Explain the working of a domestic refrigerator with a line diagram.	3	2	1	1
b)	List various cooling loads in a residential building.	3	1	2	1

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	80.80%
2	Knowledge on application and analysis (Level-3 & 4)	19.20%
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	----

