Q.27 Write function of condensers and give name of various types of condensers.
Q.28 Write short note on expansion valve.
Q.29 Give five disadvantages of solar refrigeration system.
Q.30 Define cooling and dehumidification psychrometric process.
Q.31 Name the various lines drawn on the psychrometric chart.
Q.32 State the overall effect of subcooling vapours in a vapour compression system.
Q.33 Write a short note on split type air conditioning.
Q.34 Enlist any four refrigeration methods.
Q.35 What are the main advantages and disadvantages of split air conditioning?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 What is vapour compression system? Explain its various function and main parts in detail.
Q.37 Describe evaporators and give their classification. Explain any one of them in detail.
Q.38 Write short notes on:
a) Evaporative condenser (working and diagram)
b) Draw a psychrometric chart showing different lines.

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5th Sem / Branch : GE
Sub. Basics of Refrigeration & Air Conditioning

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 1 ton of refrigeration is equivalent to
a) 200kcal/min b) 100kcal/min
c) 120kcal/min d) 211kcal/min
Q.2 The units of COP for a refrigerating machine are
a) Kcal/min b) KJ/min
c) Btu/min d) No units
Q.3 Superheating the refrigerant in compression result in
a) Decrease in COP b) Increase in COP
c) No change d) None of the above
Q.4 A vapour absorption refrigeration system uses
a) Electrical Energy b) Sound Energy
c) Heat energy d) None of the above
Q.5 An ideal refrigerant should have
a) High latent heat
b) Low latent heat
c) High degree of superheat
d) None of the above

Q.6 The compressor used in a domestic refrigerator is
a) Reciprocating Compressor
b) Horizontal compressor
c) Vertical Compressor
d) None of the above

Q.7 When atmospheric air is unable to absorb any more moisture, such air is known as
a) Saturated air b) Unsaturated air
c) Superheated air d) Polluted air

Q.8 On saturation curve, on a psychrometric chart, relative humidity is
a) 100% b) 50%
c) 60% d) 10%

Q.9 Relative humidity is represented on psychrometric chart by
a) Horizontal line b) Vertical line
c) Curve d) None of the above

Q.10 Summer air conditioning involves
a) Cooling
b) Humidification
c) Cooling and dehumidification
d) None of the above

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define refrigeration.

Q.12 What is subcooling?

Q.13 Define secondary refrigerants.

Q.14 Define coefficient of performance.

Q.15 Define air purification?

Q.16 What is sensible heat?

Q.17 Name the refrigerant commonly used for window air-conditioner.

Q.18 Give the acceptable range of humidity in air conditioning.

Q.19 Define Star rating.

Q.20 Define Psychrometry.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 A machine works on reversed carnot cycle between the temperature limits 265K and 298K. Find the COP of a refrigerator.

Q.22 Differentiate between C.O.P. and efficiency.

Q.23
Write the effects of subcooling of liquid and superheating of vapours compression refrigeration system.

Q.24 What is the role of flash chamber and accumulator in the vapour compression refrigeration system.

Q.25 Explain simple vapour absorption system with the help of neat sketch.

Q.26 How is refrigerant selected? Explain.