

- Q.23 Explain Psychrometric chart.
- Q.24 What is effect of change in suction pressure on the performance of a vapour compression system?
- Q.25 Explain reversed Carnot cycle refrigerator
- Q.26 Write the properties of an ideal refrigerant.
- Q.27 Write disadvantages of R-717.
- Q.28 Explain the working of vapour compression refrigeration system with the help of neat sketch.
- Q.29 Explain forced convection air-cooled condenser.
- Q.30 Write the various advantages of screw compressor.
- Q.31 Explain the working of forced draft cooling tower with the help of neat sketch.
- Q.32 Write a short note on automatic expansion valve.
- Q.33 Write a short note on over-load protector switch
- Q.34 Write a short note on sensible cooling.
- Q.35 Write a short note on car air-conditioner.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Explain solar power refrigeration system with the help of a neat sketch.
- Q.37 Explain the cooling & Dehumidification Psychrometric process in detail.
- Q.38 Explain working of split air-conditioner with the help of neat sketch. Write the advantages and disadvantages of it.

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Roll No.

5th Sem / Mech. Engg. (MSIL)

Subject:- Refrigeration and Air Conditioning

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 A Ton of refrigerating machine means that
- One tonne of refrigeration is used
 - One tonne of ice produced
 - The amount of refrigeration effect produced by the uniform melting of one tonne of ice at 0°C in 24 hours
 - None of these
- Q.2 COP of domestic air conditioner as compared to that of domestic refrigerator is
- Higher
 - Lower
 - Same
 - Un-predictable
- Q.3 Sub-cooling is a process of cooling the refrigerant in vapour compression system
- After compression
 - Before compression
 - Before throttling
 - After throttling
- Q.4 The Freon group of refrigerants is
- Halocarbon
 - Azeotrope
 - Hydro-carbon
 - Inorganic

- Q.5 In a vapour absorption system, as compared to vapour compression system, the compressor is replaced by
- An evaporator
 - Absorber and generator
 - An aqua pump
 - Absorber and heat exchanger
- Q.6 In Electrolux refrigerator,
- Ammonia is absorbed in water
 - Ammonia evaporates from hydrogen
 - Ammonia is absorbed in hydrogen
 - Hydrogen is absorbed in water
- Q.7 Float valves are used on
- Dry expansion evaporators
 - Flooded evaporators
 - Natural convection evaporators
 - Forced convection evaporators
- Q.8 The difference between dry bulb temperature and dew point temperature is called
- Dry bulb depression
 - Wet bulb depression
 - Dew point depression
 - Apparatus dew point
- Q.9 The relative humidity, during cooling and dehumidification of moist air:
- Increases
 - Decreases
 - Remain constant
 - can increase or decrease

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- Q.10 The refrigerant widely used in window air-conditioners is
- R-12
 - R-22
 - R-134a
 - R-717

SECTION-B

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

- Q.11 Solid carbon dioxide is known as _____
- Q.12 Brine is a solution containing salt in dissolved condition in water. (True/False)
- Q.13 Define the refrigeration.
- Q.14 Define the relative COP.
- Q.15 In the pressure-enthalpy chart, horizontal lines represent constant _____
- Q.16 Superheating of suction vapour increases the COP. (True/False)
- Q.17 What is refrigerant number of ammonia?
- Q.18 The COP of solar power refrigeration system is _____ as compared to vapour compression system.
- Q.19 Define relative humidity.
- Q.20 Define sensible heating.

SECTION-C

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

- Q.21 Define the unit of refrigeration and COP.
- Q.22 Explain the gas throttling refrigeration.

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