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Semester : 5 th
Branch : Mechanical
Subject:- Refrigeration and Air conditioning

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 TR equals to : (CO-1)
a) KJ/min b) KJm/h
c) Kg/min. d) No units

Q.2 In vapour compression refrigeration system, the condition of refrigerant before entering the compressor is : (CO1)
a) Super heated vapour b) Wet vapour
c) Dry saturated liquid d) None

Q.3 The condensing medium used in evaporative condenser is (CO-1)
a) Water only b) Air only
c) Both air and water d) None of these

Q.4 An ideal refrigerant should have (CO-8)
a) High latent heat b) Low latent heat
c) High boiling point d) None of these

Q.5 The chemical name of R-717 is : (CO-8)
a) Ethylene b) Ammonia
c) Propane d) Methane

Q.6 R-500 is : (CO8)
a) Azeotrope
b) Halo carbon refrigerant
c) Inorganic refrigerant
d) None of these

Q.7 Subcooling is cooling of liquid refrigerant in vapour compression refrigeration system (CO3)
a) Before compression b) After compression
c) Before throtting d) None of these

Q.8 The difference between dry bulb temperature and wet bulb temperature is known as : (CO-3)
a) Dew point depression
b) Dry bulb depression
c) Wet bulb depression
d) None of these

Q.9 Fluid used in Electrolux refrigerator is : (CO-1)
a) Water, ammonia, Hydrogen
b) Ammonia, Hydrogen
c) Water, Hydrogen
d) None of these

Q.10 More is the bypass factor of cooling coil (CO-4)
a) Lesser will be its efficiency
b) More will be efficiency
c) does not depend on by pass factor
d) None of these

SECTION-B

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

Q.11 Define secondary refrigerant (CO-8)

Q.12 Define refrigerant effect (CO-1)

Q.13 What is humidity ratio ? (CO-3)

Q.14 Define dehumidification (CO-4)

Q.15 What is air conditioning (CO-1)

Q.16 Define WBT (CO-3)

Q.17 Define DPT CO-3)

Q.18 Define sensible heating (CO-4)

Q.19 What is overload protector (CO-1)

Q.20 Give the relation between COP of refrigerator and heat pump (CO-1)

SECTION-C

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

Q.21 What is superheating ? Explain its effect on COP of a refrigeration system. (CO-1)

Q.22 Write short note on R-22 (CO8)

Q.23 Explain briefly gas throttling refrigeration (CO-1)

Q.24 Explain parts of simple vapour compression system using a diagram (CO-1)

Q.25 Explain heating and humidification process on a psychrometric chart (CO-4)

Q.26 Differentiate between vapour compression and vapour absorption refrigeration system. (CO-1)

Q.27 Briefly explain star rating (CO-5)

Q.28 Briefly explain the principle of vapour absorption system. (CO-1)

Q.29 What are primary refrigerants ?Give any two examples (CO-8)

Q.30 What is the function of analyzer used in vapour absorption systems. (CO-1)

Q.31 What is sensible heat factor (SHF.) Explain briefly (CO4)

Q.32 Explain the importance of psychrometry (CO-3)

Q.33 Differentiate between air cooled and water cooled condenser. (CO-1)

Q.34 What is Dalton's law of partial pressure ? (CO-3)

Q.35 Explain the term relative humidity (CO-3)

SECTION-D

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

Q.36 What is condenser? What are its essential requirements? Explain shell and coil condenser (CO-1)

Q.37 Explain the working of solar power refrigeration system with the help of a diagram. (CO-1)

Q.38 What are the various types of lines in psychrometric charts ? Name and show in term in the chart (CO-6)