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5th Sem. / Mech
Subject : Refrigeration and Air Conditioning

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

Q.1 One ton of refrigeration is equal to (CO4)

a) 210 KJ/min b) 110 KJ/min

c) 320 KJ/min d) 450 KJ/min

Q.2 Brine solution is the mixture of (CO1)

a) Salt and water b) Nitrogen and salt

c) Water and Milk d) None of these

Q.3 COP is refrigeration due to sub cooling the refrigerant (CO2)

a) Increases b) Decreases

c) Remains same d) None of these

Q.4 COP of a heat pump is always (CO2)

a) Less than one b) Equal to one

c) Greater than one d) None of these

Q.5 Which refrigerant depletes the ozone layer. (CO8)

a) Chlorofluorocarbons b) Ammonia

c) Air d) CO_2

Q.6 What is the maximum star rating air conditioner available in market. (CO5)

a) 2 star b) 3 star

c) 4 star d) 5 star

Q.7 Cooling towers are used in (CO5)

a) Water cooled condenser

b) Air cooled condenser

c) Evaporator

d) None of these

Q.8 Dry bulb temperature in psychrometric chart is represented by (CO6)

a) Horizontal lines b) Inclined lines

c) Curved lines d) Vertical lines

Q.9 The fluids used in vapour absorption system are (CO8)

a) Water and hydrogen

b) Water and ammonia

c) Hydrogen and ammonia

d) Ammonia and CO_2

Q.10 During the refrigerated cycle, heat is rejected by the refrigerant in a (CO2)

a) Compressor b) Condenser

c) Evaporator d) Expansion valve

Section-B

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

Q.11 Which machine is used for cooling purpose? (CO1)

Q.12 During refrigeration cycle, heat is rejected by refrigerant in a _____. (CO3)

Q.13 ON which principle vapour compression refrigeration system works? (CO1)

Q.14 Define refrigeration. (CO1)

Q.15 Name principle parts of a simple vapour compression refrigeration system. (CO7)

Q.16 On which cycle air refrigeration systems work? (CO2)

Q.17 Vapour absorption system makes use of _____ energy to operate the system. (CO1)

Q.18 Name important types of condensers. (CO5)

Q.19 Define dry air. (CO3)

Q.20 Define sensible heating. (CO6)

Section-C

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

Q.21 Define Ton of refrigeration. (CO3)

Q.22 Explain air expansion refrigeration. (CO1)

Q.23 Describe the effect of sub cooling in vapour compression refrigeration system. (CO2)

Q.24 Discuss disadvantages of air refrigeration over vapour compression system. (CO1)

Q25 Write properties of an ideal refrigerant. (CO8)

Q.26 Describe the function of refrigerants. (CO8)

Q.27 What are the advantages of solar power refriegeration system over vapour compression system? (CO5)

Q.28 What do you understand by hermetically sealed compressor. (CO4)

Q.29 Explain use of condensers in refrigeration system. (CO4)

Q.30 Define humidity and specific humidity. (CO6)

Q.31 Explain process of heating with humidification. (CO3)

Q.32 What is sensible heat factor? (CO6)

Q.33 Define air conditioning and mention factors required for complete air conditioning. (CO7)

Q.34 State some applications of refrigeration and air conditioning. (CO5)

Q.35 What are the advantages of auto defrosting. (CO5)

Section-D

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

Q.36 Explain principle and working of simple vapour absorption system with neat sketch. (CO1)

Q.37 Explain vapour compression refrigeration cycle in detail with neat sketch. (CO2)

Q.38 Explain central air conditioning system in detail with neat sketch. (CO7)