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**5th Sem / LIS**

**Subject:- Refrigeration and Air Conditioning**

Time : 3Hrs. M.M. : 100

**SECTION-A**

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

Q.1 One ton of refrigeration is equal to
a) 120 kJ / min b) 620 kJ / min
c) 420 kJ/ min d) 210 kJ/min

Q.2 Domestic refrigerator works on (CO2)
a) Carnot cycle b) Rankine Cycle
c) Otto cycle d) Reverse Carnot cycle

Q.3 COP in refrigeration due to sub cooling the refrigerant (CO2)
a) Increases b) Decreases
c) Remains same d) None of these

Q.4 Cooling towers are used in (CO5)
a) Water cooled condenser
b) Air cooled condenser
c) Evaporator
d) None of these



Q.5 The refrigerant must have _____ Latent heat (CO3)
a) Low b) Medium
c) High d) None of these

Q.6 What is the maximum star rating of air conditioners available in the market? (CO5)
a) 2 star b) 3 star
c) 4 star d) 5 star

Q.7 Specific humidity in psychrometric chart is represented by (CO6)
a) Horizontal lines b) Inclined lines
c) Curved lines d) Vertical lines

Q.8 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.9 Which refrigerant depletes the ozone layer (CO8)
a) Chlorofluorocarbons
b) Ammonia
c) Air
d) $CO_2$

Q.10 Effect of superheating of vapour is (CO4)
a) High COP b) Low COP
c) Same COP d) None of these

## SECTION-B

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

Q.11 Define air-conditoning. (CO7)

Q.12 Name the basic Processes of vapour compression refrigeration system. (CO1)

Q.13 What is star rating? (CO5)

Q.14 Name principle parts of vapour absorption refrigeration system. (CO4)

Q.15 On which cycle air refrigeration systems work? (CO2)

Q.16 Define COP. (CO8)

Q.17 Classify the evaporators. (CO5)

Q.18 Define moist air. (CO3)

Q.19 Define sensible heating. (CO6)

Q.20 What parameters is indicated by curved lines on psychrometric chart? (CO6)

## SECTION-C

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

Q.21 Give applications of refrigeration and air-conditoning. (CO5)

Q.22 Write the properties of an Ideal refrigerant. (CO1)

Q.23 Explain process of cooling with dehumidification. (CO6)

Q.24 What are the advantages of air refrigeration over vapour compression system.

Q.25 What are primary and secondary refrigerants? (CO8)



Q.26 Explain the effect of superheating in vapour compression refrigeration system (CO5)

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

Q.28 Explain use of compressor in refrigeration systems. (CO4)

Q.29 Differentiate between saturated and unsaturated air. (CO4)

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

Q.31 List the various types of condensers. (CO6)

Q.32 Explain sensible heat factor. (CO6)

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

Q.34 Explain automatic expansion valve. (CO5)

Q.35 Explain use of auto-deforsting. (CO5)

## SECTION-D

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

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

Q.37 Explain window type room air conditioner in detail with neat sketch. (CO7)

Q.38 Explain the working of Thermostatic expansion valve with a neat sketch. (CO1)