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Roll No. /031752

5th Sem / Mech

Subject:- Refrigeration and Air Conditioning

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Dry ice is also known as (CO4)

 - a) CO₂
 - b) NO₂
 - c) Solid CO₂
 - d) CO

Q.2 Heart of the refrigeration cycle is (CO2)

 - a) Condenser
 - b) Compressor
 - c) Expansion valve
 - d) Evaporator

Q.3 Refrigerator works on (CO2)

 - a) Carnot cycle
 - b) Rankine Cycle
 - c) Otto cycle
 - d) Reverse Carnot cycle

Q.4 Flash chamber installed between the (CO1)

 - a) Expansion valve and evaporator
 - b) Condenser and expansion valve
 - c) Compressor and condenser
 - d) Evaporator and compressor

- Q.5 Effect of superheating of vapour is (CO4)
a) High COP b) Low COP
c) Same COP d) None of these

Q.6 Which is best for cooling the big hall (CO4)
a) Window air conditioner
b) Automobile air conditioner
c) Central air conditioner
d) Split air conditioner

Q.7 In summer comfort cooling, the relative humidity of the air should not above (CO4)
a) 30% b) 40%
c) 50% d) 60%

Q.8 Air conditioning is the process of control of (CO7)
a) Temperature b) Humidity
c) Cleanliness d) All of these

Q.9 The capillary tube is a (CO5)
a) Compression device b) Expansion device
c) Filter d) None of these

Q.10 The refrigerant must have _____ Latent heat (CO3)
a) Low b) Medium
c) High d) None of these

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SECTION-B

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

- Q.11 Define refrigerated system. (CO1)
Q.12 Define air-conditioning. (CO7)
Q.13 Define Dry air. (CO5)
Q.14 Name the basic processes of vapour compression refrigeration system. (CO1)
Q.15 Domestic Electrolux refrigeration system is also known as _____ (CO1)
Q.16 What parameter is indicated by curved lines on psychrometric chart. (CO6)
Q.17 Name two types of rotary compressors. (CO5)
Q.18 Define Humidity. (CO6)
Q.19 An air washer can works as _____ (CO5)
Q.20 Define sensible cooling. (CO3)

SECTION-C

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

- Q.21 Define COP. (CO2)
Q.22 Explain dry ice refrigeration. (CO1)
Q.23 Describe the effect of superheating in vapour compression refrigeration system. (CO5)
Q.24 Discuss advantages of air refrigeration over vapour compression system. (CO1)
Q.25 Give criteria for selection of refrigerants. (CO8)

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- Q.26 What are primary and secondary refrigerants? (CO8)
Q.27 What are the disadvantages of solar power refrigeration system over vapour compression system? (CO5)
Q.28 Explain use of compressor in refrigeration systems. (CO4)
Q.29 How finned evaporators transfer heat? (CO6)
Q.30 Explain automatic expansion valve. (CO5)
Q.31 Define saturated unsaturated and superheated air. (CO4)
Q.32 Explain process of cooling with dehumidification. (CO6)
Q.33 Give classification of air conditioning. (CO7)
Q.34 Enlist various method of refrigeration. (CO1)
Q.35 Write short note on inverter technology. (CO5)

SECTION-D

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

- Q.36 Explain various parts of vapour compression refrigeration system with the help of systematic line diagram. (CO1)
Q.37 Explain principle and working of domestic Electrolux refrigeration system with neat sketch. (CO5)
Q.38 Explain window type room air conditioner in detail with neat sketch. (CO7)

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