

- Q.28 Explain the domestic Electrolux refrigeration system with neat sketch.
- Q.29 Write short note on reciprocating compressor.
- Q.30 Explain overload protector with the help of neat sketch.
- Q.31 Explain high pressure cut-out switches.
- Q.32 Explain humidification and dehumidification.
- Q.33 Explain the process of sensible cooling in psychrometry.
- Q.34 Write the advantages and disadvantages of split air conditioning.
- Q.35 Define Evaporator & name the various type of evaporators

#### SECTION-D

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

- Q.36 Draw and explain actual vapour compression refrigeration cycle.
- Q.37 Explain the working of water Cooled Condenser with a neat sketch.
- Q.38 Explain window type air conditioning system with the help of neat sketch. Give its advantages.

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MSIL121752/131752

**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 Which of the following refers to the term COP of refrigeration?
- Cooling for Performance
  - Coefficient of Performance
  - Capacity of Performance
  - Co-efficient of Plant
- Q.2 Which of the following is the common application of Air standard refrigeration system?
- Cold storage
  - Car air conditioning system
  - Domestic refrigerators
  - Aircraft air conditioning
- Q.3 How is the refrigerant used in the Air refrigeration cycle?
- In the compressor
  - In the condenser
  - Directly in contact
  - Not used at all
- Q.4 Which of the following process is used in summer air conditioning?
- Heating and Humidification
  - Cooling and Dehumidification
  - Humidification
  - Dehumidification

**Q.5** Which of the following is not the type of refrigerant?

- a) Organic refrigerants
- b) Inorganic refrigerants
- c) Azeotrope refrigerants.
- d) Halo-helium refrigerants

**Q.6** An ideal vapour absorption refrigeration system may be regarded as a combination of \_\_\_\_\_.

- a) Carnot engine and Carnot pump
- b) Carnot refrigerant and Carnot pump
- c) Carnot engine and Carnot refrigerant
- d) Carnot engine alone

**Q.7** What is the refrigerant number of water?

- a) R-717
- b) R-744
- c) R-118
- d) R-100

**Q.8** What is the purpose of using a refrigerant compressor?

- a) Raise the temperature of refrigerant
- b) Reduce the temperature of refrigerant
- c) Reduce the pressure of refrigerant
- d) Expand the refrigerant

**Q.9** Mixture of dry air and water vapor is \_\_\_\_\_.

- a) moist air
- b) dry air
- c) fresh air
- d) saturated air

**Q.10** What is the mass of water vapor present in 1 kg of dry air called?

- a) Saturated air
- b) Relative humidity
- c) Degree of saturation
- d) Specific Humidity

## **SECTION-B**

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

**Q.11** Write the SI unit of refrigeration effect.

**Q.12** Define entropy.

**Q.13** Write the function of liquid line in simple vapour compression.

**Q.14** Give the name of a secondary refrigerant.

**Q.15** Write the principle of vapour absorption system.

**Q.16** Write the chemical name of R-134a.

**Q.17** Define evaporator.

**Q.18** Define dew point depression.

**Q.19** Give the acceptable range of humidity in air-conditioning.

**Q.20** Define Relative Humidity.

## **SECTION-C**

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

**Q.21** Explain dry ice refrigeration.

**Q.22** Explain reversed Carnot cycle refrigerator.

**Q.23** Write a short note on effect of sub cooling, super heating and mass flow rate in vapour compression refrigeration cycle.

**Q.24** Explain Psychrometry chart & show various processes on the chart.

**Q.25** Write the five properties of R-22.

**Q.26** How is a refrigerant selected? Explain.

**Q.27** Give five disadvantages of solar refrigeration system.