Q.27 Define specific humidity and relative humidity.

Q.28 Write any five application of air conditioning.

Q.29 Explain automobile air conditioning.

Q.30 Explain automatic expension valve briefly.

Q.31 Differentiate between vapour compression system and vapour absorption system.

Q.32 Define and explain psychrometry chart.

Q.33 Explain window air conditioner with neat diagram.

Q.34 Explain the working of overload protector.

Q.35 Explain reversed carnot cycle refrigeration in brief.

SECTION-D

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

Q.36 Explain construction and working of solar power refrigeration system with the help of neat sketch.

Q.37 Explain in detail the construction and working of room air conditioner.

Q.38 Define the following:

i) Specific humidity

ii) Enthalpy of moist air.

iii) Relative humidity

iv) dry bulb temperature

v) Sensible heat

Roll No. .....

Subject:- Basics of refrigeration and air conditioning

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 In a vapour compression system, the refrigerant reject heat in

a) Compressor b) Condenser

c) Expansion device d) Evaporator

Q.2 A vapour absorption refrigeration system uses

a) Electrical energy b) sound energy

c) Heat energy d) none of the above

Q.3 An ideal refrigerant should have

a) high latent heat

b) low latent heat

c) high degree of super heat

d) none of the above

Q.4 The boiling point of ammonia is

a) -10.5^0 C b) -30^0 C

c) -33^0 C d) -77.7^0 C

Q.5 In an Electrolux refrigerator

a) Ammonia is absorbed in water

b) Ammonia evaporates from hydrogen
c) Ammonia is absorbed in hydrogen
d) Hydrogen is absorbed in water

Q.6 The condensing medium used in evaporative condenser is
a) Air only b) water only
c) Air and water d) none of these

Q.7 Sub-cooling is a process of cooling refrigerant in a vapour compression refrigeration system:
a) After compression b) before compression
c) Before throttling d) none of above

Q.8 The instrument used to measure DBT and WBT is known as
a) Thermometer
b) Dry and wet bulb thermometer
c) Psychrometer
d) None of the above

Q.9 A refrigerant compressor is used to
a) raise the pressure of the refrigerant
b) raise the temperature of the refrigerant
c) circulate the refrigerant through the refrigerating system
d) all of these

Q.10 In liquid gas refrigeration, the working substance is
a) Air b) Ammonia
c) nitrogen d) R-12

SECTION-B

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

Q.11 Define one ton of refrigeration

Q.12 Define refrigeration effect.

Q.13 Define psychrometry.

Q.14 Define dew point temperature.

Q.15 Define refrigerants

Q.16 Name any two types of compressors.

Q.17 Define Primary refrigerant.

Q.18 Define wet bulb temperature.

Q.19 Write the chemical formula of R-11.

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 ice refrigeration with neat sketch.

Q.22 Explain the domestic vapour absorption refrigeration system.

Q.23 Write the procedure of selection of refrigerants.

Q.24 Explain the principal of vapour compression system.

Q.25 Differentiate between air cooled & water cooled condensers.

Q.26 Explain the function of reciprocating compressor.