MFcP

Junior Engineer (MRAC)- 03-05-2016

Roll No:_ _ _ _ _ _

1. In a refrigerating unit, heat rejected is _____ heat absorbed.
   A. Equal to
   B. Greater than
   C. Less than
   D. None of the above
2. The freon group of refrigerants are
   A. Azeotrope refrigerants
   B. Inorganic refrigerants
   C. Hydro-carbon refrigerants
   D. Halo-carbon refrigerants
3. During humidification process, _____ increases.
   A. Wet bulb temperature
   B. Dry bulb temperature
   C. Relative humidity
   D. Specific humidity
4. The coefficient of performance of heat pump is always _____ one.
   A. Equal to
   B. Less than
   C. Greater than
5. An electrolux refrigerator is called a _____ absorption system.
   A. Single fluid
   B. Two fluids
   C. Three fluids
   D. Four fluids
6. During a refrigeration cycle, heat is rejected by the refrigerant in a
   A. Compressor
   B. Condenser
   C. Evaporator
   D. Expansion valve
7. The unit of overall coefficient of heat transfer is
   A. W/mk
   B. W/m^2k
   C. W/m^2
   D. W/m
8. One ton refrigeration corresponds to
   A. 50 kcal/min
   B. 50 kcal/hr
   C. 500 kcal/day
   D. 500 kcal/hr
9. Where does the lowest temperature occur in a vapour compression cycle?
   A. Condenser
   B. Compressor
   C. Evaporator

D. Expansion valve

10. The heat transfer takes place according to
    A. Zeroth law of thermodynamics
    B. First law of thermodynamics
    C. Second law of thermodynamics
    D. Boyle's law
11. For ammonia refrigerating systems, the tubes of a shell and tube condenser are made of
    A. Copper
    B. Steel
    C. Aluminium
    D. Brass
12. A refrigeration system
    A. Removes heat from a high temperature body and delivers it to a low temperature body
    B. Removes heat from a low temperature body and delivers it to a high temperature body
    C. Rejects energy to a low temperature body
    D. None of the above
13. The critical pressure of a liquid is the pressure
    A. Above which a liquid will remain a liquid
    B. Above which a liquid will explode
    C. Above which a liquid will always convert into a vapour
    D. Below which a liquid will always be in vapour form
14. A good refrigerant should have
    A. High latent heat of vaporisation and low freezing point
    B. High operating pressures and low freezing point
    C. High specific volume and high latent heat of vaporisation
    D. Low c.o.p. and low freezing point
15. A pressure gauge on the discharge side of a refrigerant compressor reads too high. The reasons will be
    A. Lack of cooling water
    B. Water temperature being high
    C. Dirty condenser surface
    D. All of these
16. The wet bulb depression is zero when relative humidity is
    A. Zero
    B. 0.5
    C. 0.75
    D. 1.0
17. For air conditioning the operation theatre in a hospital, the percentage of outside air in the air supplied is
    A. 0
    B. 5
    C. 20
    D. 100
18. Clapeyron equation is applicable for registration at
    A. Saturation point of vapour
    B. Saturation point of liquid

C. Sublimation temperature
D. Triple point

19. The operating pressure for refrigerating units using R-12 as a refrigerant is
    A. 2 bar
    B. 8 bar
    C. 15 bar
    D. 30 bar
20. At 100% relative humidity, wet bulb temperature, dry bulb temperature, dew point temperature and saturation temperature are equal.
    A. Correct
    B. Incorrect
21. Highest pressure encountered in a refrigeration system should be
    A. Critical pressure of refrigerant
    B. Much below critical pressure
    C. Much above critical pressure
    D. Near critical pressure
22. Which of the following refrigerants has lowest freezing point
    A. Freon-12
    B. Freon-22
    C. SO_2
    D. NH_3
23. The super-heating in a refrigeration cycle
    A. Does not alter c.o.p.
    B. Increases c.o.p.
    C. Decreases c.o.p.
    D. None of these
24. Condensing temperature in a refrigerator is the temperature
    A. Of cooling medium
    B. At which refrigerant gas becomes liquid
    C. Of freezing zone
    D. Of evaporator
25. Cooling water is required for following equipment in ammonia absorption plant
    A. Condenser
    B. Evaporator
    C. Absorber
    D. Condenser, absorber and separator (rectifier).
26. Under-cooling in a refrigeration cycle
    A. Decreases cof
    B. Increases cop
    C. Cop remains unaltered
    D. Other factors decide cop
27. The relative humidity is defined as
    A. The mass of water vapour present in 1 m^3 of dry air
    B. The mass of water vapour present in 1 kg of dry air
    C. The ratio of the actual mass of water vapour in a unit mass of dry air to the mass of water vapour in the same mass of dry air when it is saturated at the same temperature and pressure.

D. The ratio of actual mass of water vapour in a given volume of moist air to the mass of water vapour in the same volume of saturated air at the same temperature and pressure

28. On the pressure-enthalpy diagram, condensation and desuperheating is represented by a horizontal line because the process
    A. Involves no change in volume
    B. Takes place at constant temperature
    C. Takes place at constant enthalpy
    D. Takes place at constant pressure.
29. The refrigerant for a refrigerator should have
    A. High sensible heat
    B. High latent heat
    C. Low latent heat
    D. Low sensible heat
30. A perfect black body is one which
    A. Is black in colour
    B. Absorbs heat radiations of all wave lengths falling on it
    C. Reflects all the heat radiations
    D. Transmits the heat radiations
31. The difference between dry bulb temperature and wet bulb temperature, is called
    A. Dry bulb depression
    B. Dew point depression
    C. Wet bulb depression
    D. Degree of saturation
32. The conditioned air supplied to the room must have the capacity to take up
    A. Room sensible heat load only
    B. Room latent heat load only
    C. Both room sensible heat and latent heat loads
    D. None of the above
33. The index which correlates the combined effects of air temperature, relative humidity and air velocity on the human body, is known as
    A. Mean radiant temperature
    B. Effective temperature
    C. Dew point temperature
    D. None of these
34. Reynolds number is the ratio of
    A. Energy transferred by convection to that by conduction
    B. Kinematic viscosity to thermal diffusivity
    C. Inertia force to viscous force
    D. None of the above
35. In a vapour compression system, the condition of refrigerant before entering the expansion or throttle valve is
    A. High pressure saturated liquid
    B. Wet vapour
    C. Dry vapour
    D. Very wet vapour
36. The refrigerant supplied to a compressor must be
    A. A mixture of liquid and vapour refrigerant

B. Superheated vapour refrigerant
C. Dry saturated liquid refrigerant
D. None of these

37. The evaporator used in house-hold refrigerators is
A. Frosting evaporator
B. Non-frosting evaporator
C. Defrosting evaporator
D. None of the above

38. R-12 is generally preferred over R-22 in deep freezers since
A. It has low operating pressures
B. It gives higher coefficient of performance
C. It is miscible with oil over large range of temperatures
D. All of the above

39. The temperature of air recorded by a thermometer, when its bulb is surrounded by a wet cloth exposed to the air, is called
A. Wet bulb temperature
B. Dry bulb temperature
C. Dew point temperature
D. None of these

40. The ratio of heat extracted in the refrigerator to the work done on the refrigerant is called
A. Coefficient of performance of refrigeration
B. Coefficient of performance of heat pump
C. Relative coefficient of performance
D. Refrigerating efficiency

41. In a vapour compression system, the condition of refrigerant before passing through the condenser is
A. Saturated liquid
B. Wet vapour
C. Dry saturated vapour
D. Superheated vapour

42. The most commonly used method for the design of duct size is the
A. Velocity reduction method
B. Equal friction method
C. Static regain method
D. Dual or double method

43. In which of the following refrigeration system, waste heat can be effectively used?
A. Vapour compression cycle
B. Vapour absorption cycle
C. Air refrigeration cycle
D. None of these

44. The fluids used in electrolux refrigerator are
A. Water and hydrogen
B. Ammonia and hydrogen
C. Ammonia, water and hydrogen
D. None of these

45. The minimum temperature to which water can be cooled in a cooling tower is
A. Dew point temperature of air

B. Wet bulb temperature of air
C. Dry bulb temperature of air
D. Ambient air temperature

46. The moisture in a refrigerant is removed by
A. Evaporator
B. Safety relief valve
C. Dehumidifier
D. Driers
E. Expansion valve

47. Critical pressure of a liquid is the pressure
A. Above which liquid will remain liquid
B. Above which liquid becomes gas
C. Above which liquid becomes vapour
D. Above which liquid becomes solid

48. In a class 10,000 cleanroon, 10,000 stands for no of particles per
A. Sq.M
B. Sq.Ft
C. Sq.cm
D. Sq.mm

49. The nominal rating of a domestic refrigerator is of the order of
A. 0.01 ton
B. 0.1 ton
C. 5 tons
D. 10 tons

50. No of air changes required/hour in a class 10,000 cleanroom is in the order of
A. 1
B. 10
C. 20
D. 50