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Score: 86/100 (86.00%)

Code: 9973

1. Which refrigeration system works on directly by the heat energy?

- A) Jet refrigeration B) Mechanical refrigeration
C) Vapour absorption refrigeration (Correct) D) Vapour compression refrigeration

2. What is the physical state of ammonia at condenser inlet in vapour absorption system?

- A) Solid B) Liquid
C) Vapour (Correct) D) Semi solid

3. What is the advantage of using flux in brazing?

- A) Over heating B) Melting tubes
C) Prevent Oxidation (Correct) D) Chemical reaction

4. What is the absolute pressure of gas in a cylinder, if gauge reads 135.3 p.s.i?

- A) 130 p.s.i.a B) 140 p.s.i.a
C) 150 p.s.i.a (Correct) D) 160 p.s.i.a

5. Which components are connected by metering device in vapour compression cycle?

- A) Condenser and evaporator (Correct)** B) Compressor and condenser
 C) Evaporator and suction line D) Compressor and evaporator

6. What is the purpose of accumulator in a refrigerator?

- A) Improves oil circulation B) Prevents surging of refrigerant
 C) Avoids hunting of refrigerant **D) Prevents liquid flood back to compressor (Correct)**

7. Which instrument is used to measure the total pressure in an air duct?

- A) Hygrometer (Incorrect) B) Velocimeter
 C) Anemometer **D) Pitot tube manometer**

8. What is meant by total pressure in a duct?

- A) Velocity pressure - static pressure **B) Static pressure + velocity pressure (Correct)**
 C) Velocity pressure + suction pressure D) Suction pressure + discharge pressure

9. Which components are used in AHU of central AC plant?

- A) Blower, Air filter, Evaporator (Correct)** B) Condenser, Fan, Compressor
 C) Evaporator, Compressor, Blower D) Air filter, Compressor, Condenser

10. Which part of the working refrigeration system, the non condensable accumulate?

- A) Accumulator **B) Top of condenser (Correct)**
 C) Evaporator outlet D) Compressor crankcase

11. Which gauge is connected to the AC plant system before doing pump down operation?

- A) Compound gauge** B) Oil pressure gauge
C) High pressure gauge (Incorrect) D) Water pressure gauge

12. Which valve is used in capacity control system employing hot gas bypass?

- A) Relief valve B) Safety valve
C) Solenoid valve (Correct) D) Reversing valve

13. Which tool is used to straighten the deformed fins of air cooled condenser?

- A) Blower **B) Fin comb (Correct)**
 C) Wire brush D) Brass brush

14. What is the advantage of glass fibre ducting?

- A) Economical (Incorrect) B) Heavy weight
C) Self insulating D) High heat transfer

15. Which control trips if the expansion valve inlet strainer is blocked in chiller AC plant?

- A) Thermostat control **B) Low pressure cut out (Correct)**
 C) Oil pressure cut out D) High pressure cut out

16. What is the effect of improper alignment of machines while installing a central AC plant?

- A) Silent operation **B) Excess of wear and tear (Correct)**
 C) Less noise and vibration D) Less power consumption

17. What is the cause of high condensing pressure in water

cooled condenser?

- A) Lack of lubrication
- B) Damage condenser fan
- C) Low load on evaporator
- D) Defective cooling water pump (Correct)**

18. Which is a positive displacement compressor?

- A) Centrifugal compressor
- B) Scroll compressor (Correct)**
- C) Water pump
- D) Oil pump

19. Which type of rotor is used in 3 Phase induction motor?

- A) Squirrel cage rotor (Correct)**
- B) Shaded pole rotor
- C) Laminated rotor
- D) Solid rotor

20. What is the use of a starting capacitor in single phase induction motor?

- A) Improve power factor
- B) Increase starting torque (Correct)**
- C) Decrease starting torque (Incorrect)
- D) Dis connect starting winding

21. How to change the direction of rotation in 3 Phase induction motor?

- A) Change neutral
- B) Change all phase
- C) Change any two phase (Correct)**
- D) Change the winding only

22. What is the use of suction baffle in a scroll compressor?

- A) Reduce noise of compressor (Correct)**
- B) Increase noise of compressor
- C) Reduce capacity of compressor (Incorrect)
- D) Allow liquid to enter into compressor

23. What is the type of condenser used in direct cool refrigerator?

- A) Fin and tube
- B) Shell and tube
- C) Wire mesh (Correct)**
- D) Tube in tube

24. Which evaporator is known as extended surface evaporator?

- A) Evaporator tubes
- B) Finned evaporator (Correct)**
- C) Bare tube evaporator
- D) Coiled stake evaporator

25. Which gas is used for flushing blocked capillary tube?

- A) Moist air
- B) Hydrogen
- C) Dry nitrogen (Correct)**
- D) Aqua ammonia

26. Which component is connected in series with bimetal thermo in a frost free refrigerator?

- A) Blower
- B) Door switch
- C) Cabinet bulb
- D) Defrost heater (Correct)**

27. What is the reason for frost accumulation in between fins and tubes of evaporator in frost free refrigerator?

- A) Under charge of refrigerant
- B) Over charge of refrigerant
- C) Defective fan motor (Correct)**
- D) Defective timer (Incorrect)

28. What is the reason for no cooling in a frost free refrigerator?

- A) Defective fan motor
- B) Open door switch
- C) High watt Cabinet bulb
- D) Defective timer (Correct)**

29. Which electronic component senses the temperature in indoor unit of VRV system?

- A) Resistor
- B) Thyristor
- C) Transistor
- D) Thermistor (Correct)**

30. Which type of AC system is operated by VRV system?

- A) Package AC
- B) Central plant AC
- C) Multizone split ACs (Correct)**
- D) Indirect ACs

31. Why the temperatures of inlet and outlet water in shell and tube condenser are recorded in log sheet?

- A) Study about the plant
- B) Judge quality of water
- C) Checking the hardness of water
- D) Fix descaling time for condenser (Correct)**

32. Why the U trap is provided in water drain line of AHU?

- A) Allows air from outside
- B) Block dust from outside
- C) Prevent entry of foul smell (Correct)**
- D) Ensure free flow of drain water

33. How the indoor unit acts during heating cycle of heat pump?

- A) Condenser (Correct)**
- B) Evaporator
- C) Expansion device
- D) Electrical heater

34. What is the unit of electric current?

- A) Ampere (Correct)**
- B) Farad
- C) Ohm
- D) Volt (Incorrect)

35. How electrons flow in a battery circuit?

- A) Phase to earth
- B) Phase to neutral
- C) Positive to negative polarity
- D) Negative polarity to positive polarity (Correct)**

36. Which material is used for making disc in energy meter?

- A) Aluminium (Correct) B) Copper
C) Brass D) Zinc

37. Which type of 1-? motor has high starting torque?

- A) Permanent capacitor B) Resistance start induction run
C) Capacitor start and capacitor run (Correct) D) Induction start and induction run

38. Which winding has low resistance in resistance start induction run motor?

- A) Running winding (Correct) B) Starting winding
C) Auxiliary winding D) Common winding

39. Which meter indicates the true power directly in an electrical circuit?

- A) Ammeter B) Ohm meter
C) Watt meter (Correct) D) Volt meter

40. Which is the common terminal while Ohm meter reads AB = 10 Ohm, AC = 15 Ohm and BC = 25 Ohm if the motor terminals are A, B and C?

- A) Terminal A (Correct) B) Terminal B
C) Terminal C D) Earth Terminal

41. What are the passive components used in electronic circuits?

- A) Resistors, capacitors and inductors (Correct) B) Transformers and semiconductors
C) Semi conductors and transistors D) Transistors, diodes and SCRs

42. What is the equivalent of one microfarad in farad?

- A) 10-3 farad B) 10-6 farad (Incorrect)
C) 10-9 farad D) 10-12 farad

43. Which tool is used for trimming the edges of a sheet metal cylinder?

- A) Straight snips B) Bent snips (Correct)
C) Tube cutter D) Scissors

44. What is starving in extinguishing the fire?

- A) Adding fuel B) Removal of fuel (Correct)
C) Clearing the hazards D) Stop the supply of oxygen

45. Which component is used in frost free refrigerator?

- A) Plate coil evaporator B) Liquid receiver
C) Oil separator D) Timer switch (Correct)

46. Why frost free model refrigerator takes less freezing time of products?

- A) Forced air circulation (Correct) B) Natural air circulation
C) Low temperature setting D) High temperature setting

47. What is the reason if refrigerator runs normally but no cooling effect?

- A) Leakage of refrigerant (Correct) B) Condenser block
C) Filter block D) Over charge

48. Which instrument is used to measure the velocity pressure of air in ducting system?

- A) Nanometer B) Pitot tube (Correct)
C) Barometer D) Bourdeon tube

49. Which device controls the air flow in ducting system?

- A) Grille B) Damper (Correct)
C) Register D) Diffuser

50. What is the wet bulb temperature of air if dry bulb temperature is 35 Degree Centigrade and wet bulb depression is 4 Degree Centigrade?

- A) 30 Degree Centigrade B) 31 Degree Centigrade (Correct)
C) 32 Degree Centigrade D) 33 Degree Centigrade

51. Which compressor capacity is suitable for 2 TR air conditioner?

- A) 3000 Kcal/h B) 4000 Kcal/h
C) 5000 Kcal/h D) 6000 Kcal/h (Correct)

52. What is the purpose of air filter?

- A) Cool air B) Circulate air
C) Ensure clean air (Correct) D) Improve performance

53. Why the crankcase heater is energised for compressor during the shut down period of AC plant?

- A) Increase viscosity of crankcase oil B) Decrease viscosity of crankcase oil
C) Increase miscibility of oil with refrigerant D) Prevent oil foaming on restarting compressor (Correct)

54. Which tool is used for service valve operations in package AC?

- A) Cutting pliers B) Screw spanner

C) Ratchet key/wrench (Correct)

D) Double end spanner

55. Which is eliminated from the system in vacuumising process?

A) Humidity
C) Pressure

B) Moisture (Correct)
D) Temperature

56. What is the comfortable range of relative humidity (RH) for human beings?

A) 30 +/- 5%

B) 40 +/- 5%

C) 50 +/- 5% (Correct)

D) 60 +/- 5%

57. What is the human body temperature in Degree Centigrade?

A) 17 Degree Centigrade

B) 27 Degree Centigrade

C) 37 Degree Centigrade (Correct)

D) 47 Degree Centigrade

58. Why the miscibility of refrigerant and oil is preferred in car AC?

A) Lubricate the clutch assembly

B) Lubricate the heat exchangers

C) Circulate oil back to compressor (Correct)

D) Lubricate the moving parts of TEV

59. What is the effect of sludge in car AC?

A) Chokes the orifice of TEV (Correct)

B) Blocks the orifice of AEV

C) Closes the orifice of TEEV

D) Closes the orifice of capillary

60. What is the reason for intermittent cooling cycle in car AC?

A) Moisture in the system

B) Fully evacuated system (Incorrect)

C) Excess of lubricant in receiver

D) Non condensables in the system

61. Which type of switch is used to control the room air temperature in split AC?

A) Over load protector

B) Thermostat switch (Correct)

C) Manual switch

D) Thermal relay

62. How many fan motors are used in split AC?

A) Two (Correct)

B) Five

C) Four

D) Three

63. Which process is done first in split AC for shifting from one place to another?

A) Flushing

B) Evacuation

C) Pump down (Correct)

D) Vacuumisation

64. Which bearing is used in condenser motor of outdoor unit in ductable multi split air conditioner?

A) Open ball bearing (Incorrect)

B) Thrust bearing

C) Sleeve bearing

D) Ball bearing

65. What is the velocity range of air circulated in car AC?

A) 2 - 3 m / sec

B) 5 - 7 m / sec (Incorrect)

C) 7 - 9 m / sec

D) 9 - 10 m / sec

66. Where the liquid refrigerant is stored in multi split Air-conditioner during pump down operation?

A) Evaporator

B) Condenser (Correct)

C) Accumulator

D) Liquid receiver

67. Which material is used for making service valve?

A) Brass (Correct)

B) Cast iron

C) Aluminium

D) Stainless steel

68. What is the differential of control switch if it cuts in at 29 kg/cm² and cuts out at 34 kg/cm²?

A) 5 kg / cm²

B) 10 kg / cm²

C) 15 kg / cm² (Incorrect)

D) 20 kg / cm²

69. What is the effect of increased out door temperature in car AC?

A) Compressor runs more time (Correct)

B) Compressor runs less time

C) Performance remains the same

D) Performance increases

70. What is the reason for sweating of water on drier filter?

A) Air filter blocked

B) Partially choked drier filter (Correct)

C) More air flows through the evaporator

D) Dust accumulated on condenser

71. What is the minimum temperature difference in water required between inlet and outlet of water cooled condenser?

A) 5 Degree Centigrade (Correct)

B) 15 Degree Centigrade

C) 10 Degree Centigrade

D) 20 Degree Centigrade

72. Which AC connects the indoor evaporator unit with outdoor condenser unit through a wall hole of 7cm diameter?

A) Split air-conditioner (Correct)

B) Window air-conditioner

C) Central air-conditioner D) Industrial air-conditioner

73. Which switch is interlocked to become on if the power isolator is off in package AC?

- A) Thermostat B) Blower motor
C) Crankcase heater (Correct) D) Compressor starting

74. Which safety switch deactivates the compressor motor circuit if suction pressure falls below the safe limit in package AC?

- A) Selector switch **B) Low pressure switch (Correct)**
C) High pressure switch D) Dual pressure switch

75. What is the reason for switching contacts get carbonised in package AC electrical wiring?

- A) Humidity B) Quality is bad
C) Loose connections (Correct) D) Too tight connection contacts

76. What is the category of R 290 refrigerant?

- A) Halocarbons B) Azeotropes
C) Hydrocarbons (Correct) D) Organic compounds

77. Which international agency standardises the numbering system for identifying refrigerants?

- A) ASHRAE (Correct)** B) ISHRAE
C) DW142 D) ISO

78. What is the cylinder colour code of R 22 refrigerant?

- A) White **B) Green (Correct)**
C) Orchid D) Orange

79. How numerical designations of inorganic refrigerants are assigned?

- A) Divide 700 to molecular mass of compound B) Multiply 700 to molecular mass of compound
C) Adding 700 to molecular mass of compound (Correct) D) Subtracting 700 from molecular mass of compound

80. Which position is safe for storing refrigerant cylinder?

- A) Upside down B) Horizontal
C) Inclined **D) Upright (Correct)**

81. Which type of compressor is used as a vacuum pump?

- A) Reciprocating (Incorrect) B) Centrifugal
C) Rotary D) Scroll

82. Which component rejects the maximum heat to ambient

air in refrigerator?

- A) Expansion valve B) Compressor
C) Condenser (Correct) D) Evaporator

83. Which refrigerant is used in domestic refrigerator?

- A) R 22 B) R 32
C) R 134 a (Correct) D) R 407 c

84. Which control opens the compressor motor circuit in the event of continuous overload?

- A) Thermostat B) Fusible plug
C) Bimetal strip (Correct) D) Spring loaded relief valve

85. Which fan is used in condensing unit of ductable split air conditioner?

- A) Forward curved fan B) Centrifugal fan
C) Propeller fan (Correct) D) Radial fan

86. Which fan motor speed is used with outdoor unit in split AC?

- A) Single speed (Correct)** B) Double speed
C) Triple speed D) Five speed

87. Which is the mounting location of evaporator in ductable split unit?

- A) Floor mounting B) Wall mounting
C) Ceiling mounting (Correct) D) Roof mounting

88. What is the function of remote control in split AC?

- A) Humidity setting B) Pressure setting
C) Drain water control **D) Transmits signal to operate AC (Correct)**

89. How the pressure drop of refrigerant flow is minimised during installation of indoor and outdoor units in ductable split AC?

- A) Pipe lines with more joints B) With more horizontal distance
C) System pipes with minimum bends (Correct) D) Install units as far as possible

90. What is the percentage range of silver in copper to copper pipes brazing rod?

- A) 20 to 35% (Incorrect) **B) 35 to 45%**
C) 45 to 60% D) 60 to 100%

91. Which gas is produced by the chemical reaction of carbide and water?

- A) Oxygen B) Nitrogen
C) Acetylene (Correct) D) Carbon dioxide

92. Why the filler metal does not melt and flow into the joint in bronze welding of copper?

- A) Excess use of flux
B) Due to excess of polished surface
C) **Surface coated with oxides or oily material (Correct)**
D) Excessive heating of metal's surface

93. Which type of condenser is used in window air conditioner?

- A) **Fins and tube (Correct)**
B) Plate and tube
C) Plate and coil
D) Bare tube

94. 1 Which control device is used to maintain the room air temperature?

- A) OLP
B) Relay
C) **Thermostat (Correct)**
D) Selector switch

95. Which capacitor is connected in series with starting winding of CSR motor during operation?

- A) Fan capacitor
B) **Run capacitor (Correct)**
C) Start capacitor
D) No capacitor is connected

96. Which type of fan motor is used in window air conditioner?

- A) Three phase single shaft motor
B) Single phase single shaft motor

C) Three phase double end shaft motor
D) **Single phase double end shaft motor (Correct)**

97. Which winding of compressor motor is directly connected across voltage relay coil?

- A) Main winding
B) **Starting winding (Correct)**
C) Running winding
D) Auxiliary winding

98. What is the area of room cooled by 1ton window air conditioner?

- A) 5000 sq.ft
B) 2000 sq.ft
C) **1000 sq.ft (Correct)**
D) 3000 sq.ft

99. What is the remedy to remove moisture from the window AC system?

- A) Over gas charge in the system
B) **Evacuate the system deeply (Correct)**
C) Clean the evaporator fins
D) Clean the condenser fins

100. What is the effect of sensing higher temperature by thermistor NTC?

- A) Resistance increases
B) **Resistance decreases (Correct)**
C) Resistance becomes zero
D) Resistance becomes infinity