

Duration: 120 Mins

Total Marks: 100

Q.ID: ITISKILL8981MV

1. What is the boiling point of pure water in centigrade scale?

- A) 0 Degree Centigrade B) 212 Degree Centigrade
C) 100 Degree Centigrade D) 32 Degree Centigrade

Answer: C) 100 Degree Centigrade

2. What is the reason for poor condensation in split AC?

- A) Blower motor failure B) Condenser tube leaky
C) Low ambient temperature D) High ambient temperature

Answer: D) High ambient temperature

3. What is the atmospheric pressure at sea level?

- A) 1.6 Kg/cm² B) 1.5 Kg/cm²
C) 1.3 Kg/cm² D) 1.033 kg/cm²

Answer: D) 1.033 kg/cm²

4. What type of material is used to support the tubes on both sides of air cooled condenser?

- A) Galvanised iron sheets B) Mild steel sheet
C) Aluminium sheets D) Copper sheets

Answer: A) Galvanised iron sheets

5. What is the total resistance if two resistors R1 and R2 are connected in series?

- A) (R1 / R2) Ohms B) (R1 - R2) Ohms
C) (R1 + R2) Ohms D) (R1 x R2) Ohms

Answer: C) (R1 + R2) Ohms

6. What is indicated by the bubbles in car AC's sight glass?

- A) Pressure of air B) Shortage of refrigerant
C) Poor compression D) Excess of refrigerant

Answer: B) Shortage of refrigerant

7. Which material is used to make ducts in split AC?

- A) Fibre B) GI sheet
C) Wood D) Thermocole

Answer: B) GI sheet

8. What is the reverse break down voltage range of zener diode?

- A) 0.1 to 0.5 volt B) 0.5 to 1 volt
C) 3 to 18 volt D) 1 to 3 volt

Answer: C) 3 to 18 volt

9. Which component is used in frost free refrigerator?

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

Answer: C) Timer switch

10. Which is indicated by the arrow mark on filter drier component?

- A) Arrangement of desiccant and filter B) Position of capillary tube
C) Flow direction of refrigerant D) Flow direction of air

Answer: C) Flow direction of refrigerant

11. What is the effect of pressure drop at the inlet of the evaporator?

- A) Freezing of liquid B) Freezing of liquid refrigerant
C) Flashing of liquid refrigerant D) Boiling of oil

Answer: C) Flashing of liquid refrigerant

12. Which material is used to make the evaporator of refrigerator?

- A) Brass B) Galvanised iron
C) Aluminium D) Stainless steel

Answer: C) Aluminium

13. Which parameter of heater element is increased in OLP due to hot compressor dome?

- A) Voltage B) Capacitance
C) Resistance D) Magnetic field

Answer: C) Resistance

14. Which stabilizer capacity is used for 1 Ton window air conditioner?

- A) 3 KVA B) 4 KVA
C) 2 KVA D) 5 KVA

Answer: A) 3 KVA

15. What type of heat is absorbed by primary refrigerant?

- A) Specific heat B) Sensible heat
C) Total heat D) Latent heat

Answer: D) Latent heat

16. What is the effect of partially choked thermostatic expansion valve in central AC plant?

- A) Frosted evaporator
- B) Hot expansion valve
- C) Iced condenser
- D) Frosted expansion valve

Answer: D) Frosted expansion valve

17. Which property limits the flow of electrons in an electrical circuit?

- A) Conductance
- B) Current
- C) Resistance
- D) Voltage

Answer: D) Voltage

18. Why the water flow switch is bypassed to test the HP control switch in package AC?

- A) Make the unit not to trip
- B) Raise the oil pressure more
- C) Lower the head pressure in compressor
- D) Stopping the unit immediately

Answer: A) Make the unit not to trip

19. Which device protects the compressor motor from drawing more current?

- A) Door switch
- B) OLP
- C) Relay
- D) Thermostat

Answer: B) OLP

20. What is the storage capacity of oxygen cylinder?

- A) 6 m³
- B) 7 m³
- C) 5 m³
- D) 3 m³

Answer: B) 7 m³

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

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

Answer: B) Crankcase heater

22. Which horizontal distance is preferred between indoor and outdoor units in ductable split AC installation?

- A) 25 meters
- B) 20 meters
- C) 15 meters
- D) 12 meters

Answer: D) 12 meters

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

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

Answer: C) Defrost heater

24. What is the cooling capacity for 1.5 Ton of ductable split air conditioner?

- A) 5000 Kcal/hr
- B) 3500 Kcal/hr
- C) 4500 Kcal/hr
- D) 4000 Kcal/hr

Answer: C) 4500 Kcal/hr

25. Which thermistor's resistance increases if the temperature is decreased?

- A) LDR
- B) VDR
- C) PTC
- D) NTC

Answer: D) NTC

26. What is the cause of high condensing pressure in water cooled condenser?

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

Answer: D) Defective cooling water pump

27. What is the temperature maintained in the refrigerator freezer?

- A) 0 Degree Centigrade
- B) - 65 Degree Centigrade
- C) - 45 Degree Centigrade
- D) - 15 Degree Centigrade

Answer: D) - 15 Degree Centigrade

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

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

Answer: C) Dry nitrogen

29. How many diodes are required for making a bridge rectifier circuit?

- A) Two
- B) Three
- C) One
- D) Four

Answer: D) Four

30. Why evaporator of air conditioner has more fins per inch?

- A) Decrease the air circulation
- B) Produce more ice
- C) Increase the water dripping
- D) Increase the air contact

Answer: D) Increase the air contact

31. Which is the numerical designation of ammonia refrigerant?

- A) 700 + (Molecular mass of NH₃) = 717
- B) 700 + (Molecular mass of NH₃) = 719
- C) 700 + (Molecular mass of NH₃) = 718
- D) 700 + (Molecular mass of NH₃) = 720

Answer: A) 700 + (Molecular mass of NH₃) = 717

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

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

Answer: C) Resistors, capacitors and inductors

33. Which instrument is used for measuring heat?

- A) Calorimeter
C) Anemometer
B) Thermometer
D) Ammeter

Answer: A) Calorimeter

34. How much is the maximum capacity of refrigerant to be filled in a returnable service cylinder?

- A) Up to 90%
C) Up to 85%
B) Up to 80%
D) Up to 95%

Answer: B) Up to 80%

35. What is the benefit of VRV system?

- A) Saving refrigerant
C) Bigger in size
B) Energy saving
D) Many controls

Answer: B) Energy saving

36. What parameters are checked if the uneven cooling prevails at different rooms in a chiller plant?

- A) Condenser water pump ampere
C) Chilled water pump current drawn
B) Cooling tower fan motor ampere
D) Compressor current drawn

Answer: C) Chilled water pump current drawn

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

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

Answer: A) Excess of wear and tear

38. What is the purpose of using the water cooled condenser in industrial AC plant?

- A) Increase the temperature
C) Reduce the pressure
B) Reject more heat to water
D) Absorb less heat from system

Answer: B) Reject more heat to water

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

- A) Performance increases
C) Compressor runs less time
B) Compressor runs more time
D) Performance remains the same

Answer: B) Compressor runs more time

40. What is the purpose of gland packing in water line valves of chiller AC plant?

- A) Control water flow
C) Prevent leakage
B) Reduce valve noise
D) Smooth handling of valve

Answer: C) Prevent leakage

41. What is the minimum cross sectional area of the ducts used with bus AC?

- A) 500 cm²
C) 700 cm²
B) 400 cm²
D) 600 cm²

Answer: D) 600 cm²

42. What is the resistance level of start winding in a refrigerator s compressor motor?

- A) Zero resistance
C) Medium resistance
B) Low resistance
D) High resistance

Answer: D) High resistance

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

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

Answer: D) Capacitor start and capacitor run

44. Which material is used for making service valve?

- A) Cast iron
C) Brass
B) Stainless steel
D) Aluminium

Answer: C) Brass

45. Which is sensed by TEV in response to heat load variation?

- A) Discharge temperature
C) Super heat in suction line
B) Evaporating temperature
D) Sub cool in liquid line

Answer: C) Super heat in suction line

46. Why the top of dome is hot in a scroll compressor?

- A) Discharge plenum is at top
C) Suction gas not cooled
B) Undercharged system
D) Suction super heat is less

Answer: A) Discharge plenum is at top

47. How the refrigerants are classified based on heat absorption by latent and sensible heat?

- A) Primary and secondary
C) Organic and inorganic
B) Zeotropic and azeotropic
D) Halocarbons and hydrocarbons

Answer: A) Primary and secondary

48. How to safe guard the hands while handling glass wool?

- A) Wearing goggles
C) Using mask
B) Using shoes
D) Wearing gloves

Answer: D) Wearing gloves

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

- | | |
|--|---|
| A) Suction pressure + discharge pressure | B) Static pressure + velocity pressure |
| C) Velocity pressure - static pressure | D) Velocity pressure + suction pressure |

Answer: B) Static pressure + velocity pressure

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

- | | |
|---------------|--------------|
| A) Watt meter | B) Ohm meter |
| C) Volt meter | D) Ammeter |

Answer: A) Watt meter

51. What is the use of magnetic clutch in Car AC?

- | | |
|----------------------------------|--|
| A) Control ON/OFF for compressor | B) Indicate liquid level in the compressor |
| C) Add oil in the system | D) Indicate oil level in the compressor |

Answer: A) Control ON/OFF for compressor

52. Which winding has more inductance in refrigerator compressor motor?

- | | |
|-----------|---------------------|
| A) Start | B) Run |
| C) Common | D) Start and common |

Answer: B) Run

53. What is the advantage of periodical cleaning of air filter?

- | | |
|--|------------------------------------|
| A) Decrease the volume of air handling | B) Decrease the cooling capacity |
| C) Increase the cooling capacity | D) Increase the speed of fan motor |

Answer: C) Increase the cooling capacity

54. Which parameters in log sheet indicate the air blocking in ducts?

- | | |
|---|---|
| A) Inlet and outlet temperature of chillier | B) Liquid line temperature |
| C) All grille temperatures | D) Temperatures in chilled water system |

Answer: C) All grille temperatures

55. What is starving in extinguishing the fire?

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

Answer: B) Removal of fuel

56. Which components maintain the pressure difference in RAC system?

- | | |
|-------------------------|------------------------------------|
| A) Evaporator and motor | B) Receiver and condenser |
| C) Condenser and filter | D) Compressor and expansion device |

Answer: D) Compressor and expansion device

57. How much minimum gap is left on either side of the refrigerator from the wall during installation?

- | | |
|----------|----------|
| A) 25 cm | B) 15 cm |
| C) 10 cm | D) 5 cm |

Answer: B) 15 cm

58. What is the purpose of evacuating the system before gas charging?

- | | |
|--|-----------------------|
| A) Flush oil particles | B) Remove refrigerant |
| C) Remove moisture and non-condensable | D) Charge refrigerant |

Answer: C) Remove moisture and non-condensable

59. What is the advantage of universal colour coding of refrigerant cylinders?

- | | |
|---------------------------------------|----------------------------------|
| A) Make good appearance | B) Prevent corrosion on cylinder |
| C) Provide extra strength to cylinder | D) Easy to identify |

Answer: D) Easy to identify

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

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

Answer: A) Fix descaling time for condenser

61. What is the advantage of air washer compared to cooling coil of AHU?

- | | |
|---------------------------------|--------------------------------|
| A) Can be used in small systems | B) No eliminators are required |
| C) Quick dehumidification | D) Faster heat transfer |

Answer: D) Faster heat transfer

62. Which electrical control cuts off heating element in frost free refrigerator?

- | | |
|-------------------|----------|
| A) Bimetal thermo | B) Timer |
| C) Thermostat | D) Relay |

Answer: A) Bimetal thermo

63. Which type of short cycling is avoided by the design of blower housing in car AC?

- | | |
|-------------|--------------|
| A) Moisture | B) Lubricant |
| C) Oil | D) Air |

Answer: D) Air

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

- | | |
|-----------------|-----------------|
| A) Single speed | B) Triple speed |
| C) Double speed | D) Five speed |

Answer: A) Single speed

65. Which operating condition opens the HPC control switch in car AC?

- A) If there is continuous rain outside
- B) If there is continuous air velocity
- C) If condenser pressure exceeds safe limit
- D) If evaporator pressure exceeds safe limit

Answer: C) If condenser pressure exceeds safe limit

66. Which refrigerant blend is highly flammable?

- A) HCFC
- B) CFC
- C) HFC
- D) HC

Answer: D) HC

67. What is the equivalent of one micron in millimeter?

- A) 0.1 mm
- B) 0.001 mm
- C) 0.01 mm
- D) 0.0001 mm

Answer: B) 0.001 mm

68. What are the causes for blockage in capillary tube?

- A) Moisture and wax from oil
- B) Non condensable gases
- C) Solid particles
- D) Over charging of refrigerant

Answer: A) Moisture and wax from oil

69. What is the method of converting AC to DC power supply with two diodes and a step down transformer?

- A) Bridge rectifier
- B) Medium wave rectifier
- C) Full wave rectifier
- D) Half wave rectifier

Answer: C) Full wave rectifier

70. How the difference between the synchronous speed and the actual rotor speed is specified?

- A) Lead
- B) Trip
- C) Slip
- D) Lag

Answer: C) Slip

71. What is the absolute pressure of gas cylinder if the gauge reads 15.3 p.s.i.g?

- A) 20 p.s.i.a
- B) 40 p.s.i.a
- C) 10 p.s.i.a
- D) 30 p.s.i.a

Answer: D) 30 p.s.i.a

72. Which type of evaporator is used in window air conditioner?

- A) Bare tube
- B) Fins and plate
- C) Fins and tube
- D) Plate and tube

Answer: C) Fins and tube

73. Which distribution system is absent in VRV operation compared to central AC plant?

- A) Refrigeration
- B) Refrigerant flow
- C) Interlocked wiring
- D) Ducting system

Answer: D) Ducting system

74. Which capacitor is disconnected by relay in capacitor start and induction run motor?

- A) Starting capacitor
- B) Power factor correction capacitor
- C) Running capacitor
- D) Boosting capacitor

Answer: A) Starting capacitor

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

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

Answer: A) Transmits signal to operate AC

76. Which cooling medium is used to cool the motor of a hermetic reciprocating compressor in AC?

- A) Water
- B) Liquid refrigerant
- C) Discharge vapour
- D) Suction vapour

Answer: D) Suction vapour

77. Which method of welding process is suitable to nonferrous dissimilar metals?

- A) Brazing and bronze welding
- B) Explosion welding
- C) Ultrasonic method of welding
- D) Cold welding

Answer: A) Brazing and bronze welding

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

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

Answer: C) Fin comb

79. Where the air temperature is measured to check the performance of package AC?

- A) Blower inlet
- B) Atmosphere
- C) Condenser outlet
- D) Supply grille

Answer: D) Supply grille

80. Which level of vacuum is required before charging HFC 134a in car AC?

- A) 400 micron
- B) 200 micron
- C) 300 micron
- D) 500 micron

Answer: B) 200 micron

81. Which winding is made of thick wire in single phase induction motor?

- A) Starting
- B) Additional

C) Running

D) Auxiliary

Answer: C) Running

82. Why the capacitor is tested inside a box or case?

A) Erodes the test kit

B) Explodes safely

C) Releases poisonous gas

D) Corrodes the test kit

Answer: B) Explodes safely

83. What is the barometer reading at sea level in Hg column?

A) 740 mm

B) 760 mm

C) 730 mm

D) 750 mm

Answer: B) 760 mm

84. Why the stainless-steel metal is used to make evaporator in ice plant?

A) Erosive

B) Galvanic

C) Non corrosive

D) Reactive

Answer: C) Non corrosive

85. Which instrument is used to measure atmospheric pressure?

A) Barometer

B) Hydrometer

C) Hygrometer

D) Manometer

Answer: A) Barometer

86. Where the filter drier is installed in a car AC system?

A) Discharge line

B) Liquid line

C) Suction line

D) Service line

Answer: B) Liquid line

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

A) Resistor

B) Transistor

C) Thyristor

D) Thermistor

Answer: D) Thermistor

88. What is the load resistance in an electrical circuit, if current, $I = 2$ amp and supply, $V = 10$ volt?

A) 5 Ohms

B) 3 Ohms

C) 2 Ohms

D) 4 Ohms

Answer: A) 5 Ohms

89. Which material is used for making ICs?

A) Carbon

B) Mild steel

C) Silicon

D) Platinum

Answer: C) Silicon

90. Where the filter drier is installed in window AC refrigerant circuit?

A) Discharge line

B) Liquid line

C) Suction line

D) Service line

Answer: B) Liquid line

91. Which is the point angle of a twist drill used for zinc alloy?

A) 90 Degree

B) 118 Degree

C) 100 Degree

D) 125 Degree

Answer: B) 118 Degree

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

A) Fusible plug

B) Spring loaded relief valve

C) Thermostat

D) Bimetal strip

Answer: D) Bimetal strip

93. 1 Which control device is used to maintain the room air temperature?

A) Selector switch

B) OLP

C) Relay

D) Thermostat

Answer: D) Thermostat

94. Why the LP cut out control is bypassed electrically before pump down operation?

A) Avoid oil foaming

B) Prevent liquid entry to compressor

C) To lower the suction pressure close to 0.5 kg/cm²

D) Increase current of the compressor motor

Answer: C) To lower the suction pressure close to 0.5 kg/cm²

95. Which law relates to voltage, current and resistance in an electrical circuit?

A) Faraday s law

B) Lenz s law

C) Ohm s law

D) Newton s law

Answer: C) Ohm s law

96. Which lubricant oil is used in swash plate of R 134a compressor?

A) Mineral oil

B) POE

C) Servo 20

D) SAE - 40

Answer: B) POE

97. Which sheet is used to check the tightness of door gasket of a refrigerator?

A) Plastic

B) Rubber

C) Copper

D) Zinc

Answer: A) Plastic

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

A) Vacuumisation

B) Pump down

C) Flushing

D) Evacuation

Answer: B) Pump down

99. What is the desirable property of POE lubricant?

A) Hygroscopic

B) Toxic gas produced
during brazing

C) Forms acid with moisture

D) Miscible with HFCs

Answer: D) Miscible with HFCs

100. What is the cause for noisy fan motor in outdoor unit of split AC?

A) Bearing worn out

B) Motor Burnt

C) Shaft struck

D) Blade bent

Answer: A) Bearing worn out