

Duration: 60 Mins

Total Marks: 100

Q.ID: ITISKILL1717KB

1. How many speed selection is used with indoor air blower in ductable multi split AC?

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

Answer: A) Three - speed

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

- A) Transistor B) Thyristor
C) Thermistor D) Resistor

Answer: C) Thermistor

3. Which device meters the amount of refrigerant entering the evaporator in window AC?

- A) Capillary tube B) Finned tube condenser
C) Accumulator D) Heat exchanger

Answer: A) Capillary tube

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

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

Answer: C) 35 to 45%

5. Which suction line pressure ensures that the compressor is to be stopped during pump down operation?

- A) 0.5 kg/cm^2 B) 3 kg/cm^2
C) 5 kg/cm^2 D) -0.5 kg/cm^2

Answer: A) 0.5 kg/cm^2

6. Which design data is used for indoor air in summer air conditioning?

- A) 20 DegreeC +/- 1 DegreeC and 30% RH B) 24 DegreeC +/- 1 DegreeC and 50% RH
C) 24 DegreeC +/- 1 DegreeC and 50% RH D) 22 DegreeC +/- 1 DegreeC and 40% RH

Answer: B) 24 DegreeC +/- 1 DegreeC and 50% RH

7. What is the revolving part of induction motor?

- A) Rotor B) Stator
C) Relay D) Winding

Answer: A) Rotor

8. What is bottom dead centre in reciprocating compressor cylinder?

- A) The piston starts in cylinder at top B) The piston moves down from the point of cylinder
C) The piston moves up from the point of cylinder D) The piston stops in cylinder at top

Answer: C) The piston moves up from the point of cylinder

9. Which process decreases the dry bulb temperature of air at constant specific humidity?

- A) Sensible heating of air B) Sensible cooling of air
C) Dehumidification of air D) Humidification of air

Answer: B) Sensible cooling of air

10. 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

11. What is the formula to find out the synchronous speed of induction motor?

- A) $N_s = (120P/f)$ B) $N_s = (150P/f)$
C) $N_s = (150f/P)$ D) $N_s = (120f/P)$

Answer: D) $N_s = (120f/P)$

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

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

Answer: C) Voltage

13. Which factor determines the current setting during welding?

- A) Position of weld B) Diameter of electrode
C) Types of joint D) Length of electrode

Answer: B) Diameter of electrode

14. Which valve helps to attend mechanical faults without wasting the gas in split AC?

- A) Gate valve B) Service valve
C) Expansion valve D) Float valve

Answer: B) Service valve

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

- A) Additional
- B) Starting
- C) Running
- D) Auxiliary

Answer: C) Running

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

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

Answer: A) Moisture and wax from oil

17. Which refrigerant is used in vapour compression cycle?

- A) Primary refrigerant
- B) Secondary refrigerant
- C) Water
- D) Brine solution

Answer: A) Primary refrigerant

18. What is the advantage of recycling R 134a refrigerant?

- A) Reduce global warming
- B) Increase ozone depletion
- C) Minimise air pollution
- D) Increase water pollution

Answer: A) Reduce global warming

19. What is the name of heat carrying medium in vapour compression system?

- A) Liquid
- B) Water
- C) Refrigerant
- D) Air

Answer: C) Refrigerant

20. Why the AHU outlet is connected to supply duct with canvas material?

- A) Low maintenance cost
- B) Low installation cost
- C) Quick replacement
- D) Avoid vibration of air transmission

Answer: D) Avoid vibration of air transmission

21. Which material is used to clean oil and grease on the floor?

- A) Cotton waste
- B) Water
- C) Saw dust
- D) Air

Answer: C) Saw dust

22. What is the function of starting capacitor in CSIR motor?

- A) Corrects power factor
- B) Gives initial torque
- C) Improves energy efficiency
- D) Gives running torque

Answer: B) Gives initial torque

23. What are the three pressure actuated electrical control switches connected in series in an automobile air-conditioner?

- A) LPC, HPC and Blower-switch
- C) Thermostat, Electromagnetic clutch, on-off control

- B) Thermostat, Thermostatic expansion valve, Blower-switch
- D) Thermostat, Low-pressure control and high pressure control

Answer: D) Thermostat, Low-pressure control and high pressure control

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

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

Answer: C) Loose connections

25. What is the advantage of multi split air conditioners?

- A) One outdoor unit for one indoor unit
- B) One outdoor unit for several indoor units
- C) two outdoor units for one indoor unit
- D) Several outdoor units for one indoor unit

Answer: B) One outdoor unit for several indoor units

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

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

Answer: C) Fin comb

27. What tonnage capacity of split AC unit uses 150/200 MFD starting capacitor?

- A) 2.5 TR
- B) 1 TR
- C) 1.5 TR
- D) 2.0 TR

Answer: D) 2.0 TR

28. Which type of fan blade is used with indoor unit?

- A) Blower
- B) Guide vane
- C) Vane|
- D) Axial

Answer: A) Blower

29. What is the reason for filter drier sweating in refrigerator?

- A) Oxygen in the system
- B) Moisture in the system
- C) Nitrogen in the system
- D) Oil in the system

Answer: B) Moisture in the system

30. What is the value of running capacitor used for 1.5 TR window air conditioner?

- A) 100 MFD
- B) 40 MFD
- C) 36 MFD
- D) 80 MFD

Answer: C) 36 MFD

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

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

Answer: A) Vapour absorption refrigeration

32. How much heat is released from 2 HP motor if 746 W motor releases 3 K Cal/hr?

- A) 5 K Cal/hr B) 6 K Cal/hr
C) 4 K Cal/hr D) 3 K Cal/hr

Answer: B) 6 K Cal/hr

33. What is the minimum distance to be maintained between the wall and refrigerator condenser?

- A) 22 cm B) 15 cm
C) 13 cm D) 18 cm

Answer: B) 15 cm

34. Which type of rotor is used in split phase induction motor?

- A) Permanent magnet B) Squirrel cage
C) Eccentric D) Wound coil

Answer: B) Squirrel cage

35. Which device ensures correct flow of chilled water supply in chiller AC plant?

- A) Level master control B) Pressure relief valve
C) Leaf switch D) Sight glass

Answer: C) Leaf switch

36. Which property is desirable for an ideal refrigerant?

- A) High boiling point B) High freezing point
C) High specific volume D) High latent heat value

Answer: D) High latent heat value

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

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

Answer: A) Easy to identify

38. Which medium is used to extinguish Class - A fire?

- A) Dry powder B) Foam
C) CO₂ D) Water

Answer: D) Water

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

- A) Sleeve bearing B) Ball bearing
C) Thrust bearing D) Open ball bearing

Answer: A) Sleeve bearing

40. Which type of starter is used for motors in chiller AC plants?

- A) Hydraulic B) Magnetic
C) Electromagnetic D) Pneumatic

Answer: C) Electromagnetic

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

- A) 20 kg / cm² B) 5 kg / cm²
C) 10 kg / cm² D) 15 kg / cm²

Answer: B) 5 kg / cm²

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

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

Answer: B) All grille temperatures

43. Which component secures the hose with regulator union in gas welding set?

- A) Iron chain B) Steel wire
C) Fibre clip D) Hose clamp

Answer: D) Hose clamp

44. Which component switches ON/OFF the starting winding in RSIR motor?

- A) Relay B) OLP
C) Thermostat D) Capacitor

Answer: A) Relay

45. Which is the numerical designation of ammonia refrigerant?

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

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

46. What is the tool used for holding hot metals?

- A) Tongs B) Bench vice
C) Pipe vice D) Spanner

Answer: A) Tongs

47. Which domestic system uses automatic defrost?

- A) Window air - conditioner B) Conventional refrigerator
C) Split air - conditioner D) Frost free refrigerator

Answer: D) Frost free refrigerator

48. What is starving in extinguishing the fire?

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

Answer: D) Removal of fuel

49. Why the service port fitting size differs in HFC-134a from CFC-12 car AC system?

- A) Avoids cross contamination of refrigerants car air conditioners
B) Improves performance of
C) Increases quantity of refrigerant charge D) Decreases quantity of refrigerant charge

Answer: A) Avoids cross contamination of refrigerants

50. How the zeotropic refrigerant is taken from the cylinder for charging it into RAC system?

- A) Vapour state B) Liquid state
C) Vapour and liquid D) Super heated vapour

Answer: B) Liquid state

51. What is the cause of bubbles in liquid line at sight glass in car AC system?

- A) Over charge of refrigerant B) Correct charge of refrigerant
C) Shortage of refrigerant D) No refrigerant charge

Answer: C) Shortage of refrigerant

52. What is the desirable property of POE lubricant?

- A) Toxic gas produced during brazing B) Forms acid with moisture
C) Hygroscopic D) Miscible with HFCs

Answer: D) Miscible with HFCs

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

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

Answer: D) Air

54. Which types of heat are involved in ventilation and infiltration of air to AC space?

- A) Sensible heat and solar heat B) Radiant heat and specific heat
C) Latent heat of water-vapour only D) Sensible heat and latent heat

Answer: D) Sensible heat and latent heat

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

- A) Zinc B) Plastic
C) Copper D) Rubber

Answer: B) Plastic

56. What is the flame temperature range of oxy acetylene gas flame?

- A) 3100Degree Centigrade to 3300Degree Centigrade B) 2400Degree Centigrade to 2700Degree Centigrade
C) 1800Degree Centigrade to 2200Degree Centigrade D) 2700Degree Centigrade to 2800Degree Centigrade

Answer: A) 3100Degree Centigrade to 3300Degree Centigrade

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

- A) 90 Degree B) 100 Degree
C) 125 Degree D) 118 Degree

Answer: D) 118 Degree

58. Which part of electronic filter removes tobacco smoke and odours?

- A) Pre filter B) Static electric field
C) Charcoal filter D) Electrodes

Answer: C) Charcoal filter

59. Which instrument is used to measure atmospheric pressure?

- A) Hydrometer B) Hygrometer
C) Manometer D) Barometer

Answer: D) Barometer

60. What is the ratio of oxygen to acetylene in neutral flame for brazing?

- A) 02:01 B) 01:01
C) 01:03 D) 01:02

Answer: B) 01:01

61. Which part of window AC removes dust particles from the room air?

- A) Strainer B) Air filter
C) Dehydrator D) Filter drier

Answer: B) Air filter

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

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

Answer: C) Ceiling mounting

63. Which expansion valve is suitable for constant load operation?

- A) Automatic expansion valve B) Relief valve
C) King valve D) Low side float valve

Answer: A) Automatic expansion valve

64. What is the preventive remedy for scale in water cooled condenser tubes in package AC?

- A) Increase water pressure B) Improve water quality

- C) Minimise water flow D) Install flow meter

Answer: B) Improve water quality

65. Which tool is used for tightening the odd size bolts and nuts?

- A) Adjustable spanner B) Ring spanner
C) Nose pliers D) Socket set

Answer: A) Adjustable spanner

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

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

Answer: A) Aluminium

67. What is the colour of acetylene hose pipe in oxy - acetylene welding set?

- A) Red B) Green
C) Black D) Maroon

Answer: D) Maroon

68. Why HCFC 22 refrigerant is recycled?

- A) Increase the efficiency of RAC systems B) Decrease the cost of production
C) Reduce ODP and GWP of environment D) Make use of the same lubricant

Answer: C) Reduce ODP and GWP of environment

69. Which bearing is used in blower motor of indoor unit in ductable split air conditioner?

- A) Sleeve bearing B) Open ball bearing
C) Ball bearing D) Thrust bearing

Answer: A) Sleeve bearing

70. What is the cooling capacity of 0.5 TR in BTU / hr?

- A) 6000 B) 18000
C) 24000 D) 12000

Answer: A) 6000

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

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

Answer: D) Increase the air contact

72. Which valve is first closed to start the pump down operation in central AC plant?

- A) Receiver inlet valve B) Discharge service valve
C) Suction service valve D) Receiver outlet valve

Answer: D) Receiver outlet valve

73. Which type of expansion device is used in frost free refrigerator?

- A) Thermostatic expansion valve B) Float valve
C) Automatic expansion valve D) Capillary tube

Answer: D) Capillary tube

74. Which safety control is electrically connected in series with magnetic clutch of compressor in car AC?

- A) AEV B) HPC
C) EEV D) TEV

Answer: B) HPC

75. What is the category of R 407c refrigerant?

- A) Azeotropes B) Zeotropes
C) Organic D) Inorganic

Answer: B) Zeotropes

76. What is the preventive maintenance of cooling tower sump?

- A) Add bleaching powder B) Remove sludge
C) Add HCL to water D) Flush with water

Answer: B) Remove sludge

77. Where the normally closed contacts are internally connected in voltage relay?

- A) Across 1 and 5 B) Across 2 and 5
C) Across 1 and 2 D) Across 2 and 4

Answer: C) Across 1 and 2

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

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

Answer: D) Bimetal strip

79. How the capacity of refrigerator is expressed?

- A) Litres B) Wattage
C) Weightage D) Tonnage

Answer: A) Litres

80. Which two tubes act as heat exchanger in a refrigerator?

- A) Capillary and suction tube B) Suction and charging tube
C) Discharge and capillary tube D) Discharge and suction tube

Answer: A) Capillary and suction tube

81. What is done after gas charging and pinching the process tube in refrigerator?

- A) Flaring B) Charging

C) Swaging

D) Brazing

Answer: D) Brazing

82. What is the effect of residual acid particles after descaling the shell and tube condenser in industrial AC plant?

A) Reduce heat transfer

B) Increase algae growth

C) Block the strainer

D) Corrode the tubes

Answer: D) Corrode the tubes

83. Which psychrometer uses battery operated small fan?

A) Aspirating psychrometer

B) Sling psychrometer

C) Laboratory psychrometer

D) Exhausting psychrometer

Answer: A) Aspirating psychrometer

84. What is the ampere setting for 3.5 mm diameter electrode in welding?

A) 50 Ampere

B) 60 Ampere

C) 110 Ampere

D) 100 Ampere

Answer: C) 110 Ampere

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

A) POE

B) Servo 20

C) Mineral oil

D) SAE - 40

Answer: A) POE

86. What is the rate of doing work?

A) Duty

B) Power

C) Velocity

D) Force

Answer: B) Power

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

A) Damage condenser fan

B) Lack of lubrication

C) Low load on evaporator

D) Defective cooling water pump

Answer: D) Defective cooling water pump

88. What is the reason for no cooling effect in car AC?

A) Air in the system

B) Refrigerant leaked

C) Moisture in the system

D) Excess of refrigerant

Answer: B) Refrigerant leaked

89. What is the cause for refrigerator door gap at closing position?

A) Either side gap less

B) Uneven condenser level

C) Either side gap more

D) Uneven floor level

Answer: D) Uneven floor level

90. Which refrigerant is used in domestic refrigerator?

A) R 32

B) R 22

C) R 407 c

D) R 134 a

Answer: D) R 134 a

91. What is the minimum quantity of fresh air needed per person in comfort AC?

A) 2 to 3.5 cfm

B) 5 to 7.5 cfm

C) 4 to 5.5 cfm

D) 3 to 4.5 cfm

Answer: B) 5 to 7.5 cfm

92. Which type of AC system is capable of heating or cooling in different zones simultaneously?

A) Package AC

B) Central plant AC

C) VRV AC system

D) VAV AC system

Answer: C) VRV AC system

93. What is the value of starting capacitor used for 1.5TR capacity window air conditioner?

A) 130 to 150 MFD

B) 40 to 60 MFD

C) 80 to 100 MFD

D) 150 to 160 MFD

Answer: C) 80 to 100 MFD

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

A) Radial fan

B) Forward curved fan

C) Centrifugal fan

D) Propeller fan

Answer: D) Propeller fan

95. How the reciprocal of air density is mentioned in psychrometric chart?

A) Specific gravity

B) Sensible heat ratio

C) Specific volume per unit mass

D) Specific heat ratio

Answer: C) Specific volume per unit mass

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

A) Liquid receiver

B) Evaporator

C) Condenser

D) Accumulator

Answer: C) Condenser

97. Which device is used to exhaust the room air in window AC?

A) Air filter

B) Damper

C) Air washer

D) Filter drier

Answer: B) Damper

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

A) Make the unit not to trip

B) Stopping the unit immediately

C) Lower the head pressure in compressor

D) Raise the oil pressure more

Answer: A) Make the unit not to trip

99. What is the fault in compressor motor if there is electrical continuity between the dome and motor terminal?

- | | |
|--------------------------|------------------------------|
| A) Shorted run winding | B) Open common terminal |
| C) Shorted start winding | D) Grounded compressor motor |

Answer: D) Grounded compressor motor

100. Which is increased by the fins of condenser tubes in window air conditioner?

- | | |
|-----------------------|--------------------------|
| A) Power consumption | B) Refrigerant flow rate |
| C) Discharge pressure | D) Heat transfer rate |

Answer: D) Heat transfer rate
