

**Duration: 60 Mins**

**Total Marks: 100**

**Q.ID: ITISKILL48600F**

1. What is the differential of control switch if it cuts in at 29 kg/cm<sup>2</sup> and cuts out at 34 kg/cm<sup>2</sup>?

- A) 20 kg / cm<sup>2</sup> B) 15 kg / cm<sup>2</sup>  
C) 5 kg / cm<sup>2</sup> D) 10 kg / cm<sup>2</sup>

**Answer: C) 5 kg / cm<sup>2</sup>**

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

- A) Evacuation B) Vacuumisation  
C) Flushing D) Pump down

**Answer: D) Pump down**

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

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

**Answer: B) Defective timer**

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

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

**Answer: C) Propeller fan**

5. Which material is used for making service valve?

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

**Answer: C) Brass**

6. 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) System pipes with minimum bends  
C) Install units as far as possible D) With more horizontal distance

**Answer: B) System pipes with minimum bends**

7. 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) Subtracting 700 from molecular mass of compound

D) Adding 700 to molecular mass of compound

**Answer: D) Adding 700 to molecular mass of compound**

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

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

**Answer: C) Surface coated with oxides or oily material**

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

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

**Answer: D) Two**

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

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

**Answer: A) Compound gauge**

11. Which evaporator is known as extended surface evaporator?

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

**Answer: B) Finned evaporator**

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

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

**Answer: A) Vapour absorption refrigeration**

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

- A) Blocks the orifice of AEV B) Chokes the orifice of TEV  
C) Closes the orifice of TEEV D) Closes the orifice of capillary

**Answer: B) Chokes the orifice of TEV**

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

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

**Answer: C) 6000 Kcal/h**

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

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

**Answer: B) Condenser and evaporator**

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

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

**Answer: C) Rotary**

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

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

**Answer: A) Increase starting torque**

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

- A) Defective timer  
C) Under charge of refrigerant
- B) Over charge of refrigerant  
D) Defective fan motor

**Answer: D) Defective fan motor**

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

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

**Answer: D) Prevent entry of foul smell**

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

- A) Single phase single shaft motor  
C) Three phase double end shaft motor
- B) Single phase double end shaft motor  
D) Three phase single shaft motor

**Answer: B) Single phase double end shaft motor**

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

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

**Answer: D) Defrost heater**

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

- A) Manual switch  
C) Thermostat switch
- B) Thermal relay  
D) Over load protector

**Answer: C) Thermostat switch**

**23.** Which type of AC system is operated by VRV system?

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

**Answer: B) Multizone split ACs**

**24.** Which position is safe for storing refrigerant cylinder?

- A) Upright  
C) Horizontal
- B) Upside down  
D) Inclined

**Answer: A) Upright**

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

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

**Answer: D) Fin comb**

**26.** What is the category of R 290 refrigerant?

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

**Answer: A) Hydrocarbons**

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

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

**Answer: B) Reduce noise of compressor**

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

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

**Answer: C) Dry nitrogen**

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

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

**Answer: A) Forced air circulation**

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

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

**Answer: A) Pitot tube**

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

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

**Answer: B) Top of condenser**

**32.** What is meant by total pressure in a duct?

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

**Answer: D) Static pressure + velocity pressure**

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

- A) Dust accumulated on condenser      B) Air filter blocked  
C) Partially choked drier filter      D) More air flows through the evaporator

**Answer: C) Partially choked drier filter**

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

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

**Answer: B) Crankcase heater**

**35.** 1 Which control device is used to maintain the room air temperature?

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

**Answer: B) Thermostat**

**36.** Which is eliminated from the system in vacuumising process?

- A) Temperature                      B) Humidity  
C) Moisture                              D) Pressure

**Answer: C) Moisture**

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

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

**Answer: B) Fins and tube**

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

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

**Answer: A) Loose connections**

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

- A) Low pressure cut out                B) Oil pressure cut out

- C) Thermostat control                D) High pressure cut out

**Answer: A) Low pressure cut out**

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

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

**Answer: A) Leakage of refrigerant**

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

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

**Answer: D) Resistance decreases**

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

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

**Answer: D) Vapour**

**43.** What is starving in extinguishing the fire?

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

**Answer: B) Removal of fuel**

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

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

**Answer: D) Blower, Air filter, Evaporator**

**45.** 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                              B) Earth Terminal  
C) Terminal B                              D) Terminal C

**Answer: A) Terminal A**

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

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

**Answer: B) Squirrel cage rotor**

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

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

**Answer: A) Watt meter**

48. 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) 32 Degree Centigrade
- B) 33 Degree Centigrade
- C) 31 Degree Centigrade
- D) 30 Degree Centigrade

**Answer: C) 31 Degree Centigrade**

49. Which is a positive displacement compressor?

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

**Answer: D) Scroll compressor**

50. Which refrigerant is used in domestic refrigerator?

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

**Answer: B) R 134 a**

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

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

**Answer: A) Prevent oil foaming on restarting compressor**

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

- A) ISO
- B) DW142
- C) ASHRAE
- D) ISHRAE

**Answer: C) ASHRAE**

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

- A) Liquid receiver
- B) Evaporator
- C) Accumulator
- D) Condenser

**Answer: D) Condenser**

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

- A) Lubricate the moving parts of TEV
- B) Lubricate the clutch assembly
- C) Lubricate the heat exchangers
- D) Circulate oil back to compressor

**Answer: D) Circulate oil back to compressor**

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

- A) Screw spanner
- B) Cutting pliers
- C) Double end spanner
- D) Ratchet key/wrench

**Answer: D) Ratchet key/wrench**

56. 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

**Answer: D) Negative polarity to positive polarity**

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

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

**Answer: B) Fix descaling time for condenser**

58. What is the advantage of glass fibre ducting?

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

**Answer: A) Self insulating**

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

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

**Answer: C) Prevent Oxidation**

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

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

**Answer: A) Acetylene**

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

- A) 15 Degree Centigrade
- B) 20 Degree Centigrade
- C) 10 Degree Centigrade
- D) 5 Degree Centigrade

**Answer: D) 5 Degree Centigrade**

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

- A) Running winding
- B) Starting winding
- C) Main winding
- D) Auxiliary winding

**Answer: B) Starting winding**

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

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

**Answer: C) Pitot tube manometer**

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

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

**Answer: B) Thermistor**

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

- A) 30 +/- 5%
- B) 60 +/- 5%
- C) 40 +/- 5%
- D) 50 +/- 5%

**Answer: D) 50 +/- 5%**

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

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

**Answer: D) Solenoid valve**

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

- A) 10<sup>-3</sup> farad
- B) 10<sup>-6</sup> farad
- C) 10<sup>-12</sup> farad
- D) 10<sup>-9</sup> farad

**Answer: D) 10<sup>-9</sup> farad**

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

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

**Answer: D) Damper**

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

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

**Answer: C) Change any two phase**

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

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

**Answer: B) Resistors, capacitors and inductors**

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

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

**Answer: A) Single speed**

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

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

**Answer: C) Wire mesh**

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

- A) Window air-conditioner
- B) Split air-conditioner

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

**Answer: B) Split air-conditioner**

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

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

**Answer: C) Ceiling mounting**

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

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

**Answer: B) Aluminium**

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

- A) 17 Degree Centigrade
- B) 47 Degree Centigrade
- C) 27 Degree Centigrade
- D) 37 Degree Centigrade

**Answer: D) 37 Degree Centigrade**

77. What is the purpose of air filter?

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

**Answer: D) Ensure clean air**

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

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

**Answer: B) Bent snips**

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

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

**Answer: A) Transmits signal to operate AC**

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

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

**Answer: A) Condenser**

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

- A) Non condensables in the system
- B) Excess of lubricant in receiver
- C) Fully evacuated system
- D) Moisture in the system

**Answer: D) Moisture in the system**

82. What is the area of room cooled by 1ton window air

conditioner?

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

**Answer: B) 1000 sq.ft**

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

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

**Answer: C) Bimetal strip**

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

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

**Answer: B) Compressor runs more time**

85. What is the unit of electric current?

- A) Farad
- B) Ampere
- C) Volt
- D) Ohm

**Answer: B) Ampere**

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

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

**Answer: A) 150 p.s.i.a**

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

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

**Answer: A) Excess of wear and tear**

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

- A) 2 - 3 m / sec
- B) 7 - 9 m / sec
- C) 5 - 7 m / sec
- D) 9 - 10 m / sec

**Answer: A) 2 - 3 m / sec**

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

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

**Answer: A) Defective cooling water pump**

90. Which component rejects the maximum heat to ambient air in refrigerator?

- A) Condenser
- B) Evaporator

- C) Expansion valve
- D) Compressor

**Answer: A) Condenser**

91. Which type of 1- $\phi$  motor has high starting torque?

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

**Answer: C) Capacitor start and capacitor run**

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

- A) White
- B) Orange
- C) Green
- D) Orchid

**Answer: C) Green**

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

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

**Answer: D) Run capacitor**

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

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

**Answer: A) Sleeve bearing**

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

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

**Answer: B) Prevents liquid flood back to compressor**

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

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

**Answer: C) Running winding**

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

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

**Answer: D) Low pressure switch**

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

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

**Answer: A) 35 to 45%**

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99. Which component is used in frost free refrigerator?

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

**Answer: C) Timer switch**

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

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

**Answer: B) Evacuate the system deeply**

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