

Duration: 60 Mins

Total Marks: 250

Q.ID: ITISKILL9792BX

1. Which power supply has the fixed polarity?

- A) Direct current
- B) Alternating current
- C) Signal voltage
- D) Signal ripples

Answer: A) Direct current

2. Which position is safe for storing refrigerant cylinder?

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

Answer: C) Upright

3. What is the reason for the compressor motor burn out in a window air conditioner?

- A) Defective fan motor
- B) Defective fan capacitor
- C) Defective OLP
- D) Defective blower

Answer: C) Defective OLP

4. Which speed is recommended for checking optimum performance in car AC?

- A) 1600 rpm
- B) 2600 rpm
- C) 4600 rpm
- D) 3600 rpm

Answer: B) 2600 rpm

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

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

Answer: B) Defective fan motor

6. Which gas is universally taken as the basic reference for GWP?

- A) AIR
- B) CO₂
- C) NH₃
- D) SO₂

Answer: B) CO₂

7. What is the category of R 290 refrigerant?

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

Answer: A) Hydrocarbons

8. Which type of drier filter is suitable for HFC refrigerants?

- A) Activated carbon
- B) Molecular sieve type
- C) Activated alumina
- D) Silica gel

Answer: B) Molecular sieve type

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

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

Answer: C) Up to 80%

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

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

Answer: A) Flow direction of refrigerant

11. What is the benefit of VRV system?

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

Answer: B) Energy saving

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

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

Answer: D) GI sheet

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

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

Answer: D) Vapour absorption refrigeration

14. Which is the green house gas?

- A) Helium of atmospheric air
- B) Oxygen of atmospheric air
- C) Neon of atmospheric air
- D) Chlorofluoro carbon in air

Answer: D) Chlorofluoro carbon in air

15. What is the cut out temperature of bimetal thermo in frost free refrigerator?

- A) 10 Degree Centigrade
- B) 5 Degree Centigrade
- C) 20 Degree Centigrade
- D) 25 Degree Centigrade

Answer: A) 10 Degree Centigrade

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

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

Answer: D) Prevents liquid flood back to compressor

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

- A) Central plant AC
- B) VRV AC system
- C) VAV AC system
- D) Package AC

Answer: B) VRV AC system

18. How the level of heat in a substance is expressed?

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

Answer: B) Temperature

19. Which device equalizes the system pressure in frost free refrigerator?

- A) Condenser
- B) Compressor
- C) Evaporator
- D) Capillary tube

Answer: D) Capillary tube

20. What is the unit of capacitance?

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

Answer: D) Farad

21. Which refrigerant is inactive to ozone layer?

- A) R 22
- B) R 13
- C) R 12
- D) R 134a

Answer: D) R 134a

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

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

Answer: C) Voltage

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

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

Answer: D) Condenser and evaporator

24. 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) $(R1 \times R2)$ Ohms

Answer: A) $(R1 + R2)$ Ohms

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

- A) Air in the system
- B) Excess of refrigerant
- C) Moisture in the system
- D) Refrigerant leaked

Answer: D) Refrigerant leaked

26. Which instrument is used to measure pressure on both high and low side of the system?

- A) Gauge manifold
- B) Pressure manifold
- C) Pipe manifold
- D) Instrument manifold

Answer: A) Gauge manifold

27. Which device switches ON/OFF the car AC compressor?

- A) Blower unit
- B) Rotor winding
- C) Magnetic clutch
- D) Crank shaft

Answer: C) Magnetic clutch

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

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

Answer: C) Evacuate the system deeply

29. 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

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

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

Answer: C) Receiver outlet valve

31. 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) Earth Terminal
- B) Terminal C
- C) Terminal B
- D) Terminal A

Answer: D) Terminal A

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

- A) 750 mm
- B) 740 mm
- C) 730 mm
- D) 760 mm

Answer: D) 760 mm

33. Which movement of plunger energises the start winding in relay operation?

- A) Vertically up
- B) Horizontally left
- C) Vertically down
- D) Bottom side

Answer: A) Vertically up

34. Which component is used as a switching device in electronic circuit?

- A) Capacitor
- B) Diode
- C) SCR
- D) Zener diode

Answer: C) SCR

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

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

Answer: C) Slip

36. What is the reason for Very high condenser temperature in a window air conditioner?

- A) Fan motor working in good condition
- B) Dust accumulated in the condenser fins
- C) More air flows into the condenser
- D) Water splashes condenser

Answer: B) Dust accumulated in the condenser fins

37. Why CFC 12 system is replaced by HFC 134a system in car AC?

- A) ODP becomes zero
- B) GWP becomes zero
- C) Increase ODP
- D) Increase GWP

Answer: A) ODP becomes zero

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

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

Answer: B) Defrost heater

39. Which parameter of power supply reduces the starting current in VFD motor?

- A) Decreased resistance mode
- B) Increased supply voltage
- C) Decreased power factor
- D) Lower frequency operation

Answer: D) Lower frequency operation

40. Where the refrigerant vapour is compressed in scroll compressor?

- A) Crank and connecting rod
- B) Fixed and reciprocating scroll
- C) Between fixed and orbiting scrolls
- D) Eccentric and cylinder

Answer: C) Between fixed and orbiting scrolls

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

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

Answer: A) Partially choked drier filter

42. Which movement of the scroll compresses the low pressure vapour in scroll compressor?

- A) Centrifugal
- B) Orbital
- C) Rotating
- D) Reciprocating

Answer: B) Orbital

43. Which instrument is used for measuring heat?

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

Answer: A) Calorimeter

44. Which method is used to connect the swaged joint in copper tubes?

- A) Lead soldering
- B) Silver brazing
- C) Fusion welding
- D) TIG welding

Answer: B) Silver brazing

45. Which joint is made in either single or multi - strand conductors?

- A) Britannia joint
- B) Scarfed joint
- C) Rat tail joint
- D) Western union joint

Answer: C) Rat tail joint

46. Which material is used for making ICs?

- A) Mild steel
- B) Silicon
- C) Carbon
- D) Platinum

Answer: B) Silicon

47. How the capacity of refrigerator is expressed?

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

Answer: D) Litres

48. What is the value of absolute vacuum in millimeters of mercury?

- A) -14.7
- B) -760
- C) -10.33
- D) -76

Answer: B) -760

49. Which refrigerant is used in vapour compression cycle?

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

Answer: B) Primary refrigerant

50. Which is used to connect the rotor bars in 3phase squirrel cage induction motor?

- A) End ring
- B) Screw
- C) Welded
- D) Nut and bolt

Answer: A) End ring

51. Which motor has the least starting torque?

- A) CSR
- B) PSC
- C) CSIR
- D) RSIR

Answer: D) RSIR

52. What is the purpose of relay used in window air conditioner?

- A) Disconnect the winding
- B) Disconnect the fan capacitor
- C) Disconnect the running capacitor
- D) Disconnect the starting capacitor

Answer: D) Disconnect the starting capacitor

53. What is the rate of doing work?

- A) Velocity
- B) Duty
- C) Force
- D) Power

Answer: D) Power

54. What is the maximum capacity of 3 phase squirrel cage induction motor used with direct on line (DOL) starter?

- A) 10 HP
- B) 5 HP
- C) 20 HP
- D) 15 HP

Answer: B) 5 HP

55. Which insulating material is poured as liquid?

- A) Cork Board
- B) Poly Urethane Foam (PUF)
- C) Glass Wool
- D) Wood Shave

Answer: B) Poly Urethane Foam (PUF)

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

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

Answer: A) Sleeve bearing

57. Which thermodynamic process the temperature is kept constant?

- A) Isothermal process
- B) Isobaric process
- C) Constant volume process
- D) Constant pressure process

Answer: A) Isothermal process

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

- A) Resistance becomes zero
- B) Resistance becomes infinity

- C) Resistance decreases
- D) Resistance increases

Answer: C) Resistance decreases

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

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

Answer: B) 3 KVA

60. What is the reason for poor cooling effect in multi split air conditioner?

- A) Efficient compressor
- B) Dirty air filter
- C) Proper condensation
- D) Good insulation

Answer: B) Dirty air filter

61. What is the expansion of HVAC?

- A) Heating, Ventilation Automatic Control
- B) Heavy Vehicle Air Conditioning
- C) Heating, Ventilation and Air Conditioning
- D) Heating, Vibration, Auto Correction

Answer: C) Heating, Ventilation and Air Conditioning

62. Which compressor dome handles high pressure and high temperature vapour?

- A) Hermetic reciprocating compressor
- B) Open type reciprocating compressor
- C) Hermetic rotary compressor
- D) Semi hermetic reciprocating compressor

Answer: C) Hermetic rotary compressor

63. Where the dehydrator is installed in a refrigeration system?

- A) Liquid line
- B) Suction line
- C) Capillary line
- D) Discharge line

Answer: A) Liquid line

64. What is the reason for poor compression?

- A) Scratches on the piston surface
- B) Good lubrication on the moving parts
- C) Less clearance volume
- D) Lapped valve plate and reed seat

Answer: A) Scratches on the piston surface

65. Where the thermal bulb is fixed in frost free refrigerator?

- A) Last coil of evaporator
- B) Liquid line
- C) Last coil of condenser
- D) Discharge line

Answer: A) Last coil of evaporator

66. Which gas is used to flush out the coils of air cooled condenser?

- A) Pure dry air
- B) Oxygen
- C) Dry nitrogen
- D) kaksr

Answer: C) Dry nitrogen

67. What is the advantage of sealed system compared to open type system?

- A) Any refrigerant can be used
- B) Mechanical efficiency is greater
- C) No shaft seal is required
- D) Cylinder lubrication is easier

Answer: C) No shaft seal is required

68. Which electronic component is the voltage regulator?

- A) Triac
- B) Diac
- C) Transistor
- D) Zener diode

Answer: D) Zener diode

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

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

Answer: A) Remove moisture and non-condensable

70. What is the unit of electrical energy?

- A) Ampere
- B) Volt
- C) Kilo watt hour
- D) Watt

Answer: D) Watt

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

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

Answer: B) Thermistor

72. Which gas is used for pressure testing the compressor dome?

- A) Air
- B) Nitrogen
- C) Oxygen
- D) Refrigerant

Answer: B) Nitrogen

73. Which valve is used to release the non condensable gases from AC plant?

- A) Solenoid valve
- B) Service valve
- C) Check valve
- D) Purge valve

Answer: D) Purge valve

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

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

Answer: A) Aluminium

75. Which part of tube cutter is used for removing the burrs from copper tubes?

- A) Reamer
- B) Bender
- C) Cutter
- D) Roller

Answer: C) Cutter

76. What is the effect on system performance if the AC system is at undercharged condition?

- A) Poor cooling
- B) Excess cooling
- C) Compressor trips by HP cut out
- D) Compressor over loading

Answer: A) Poor cooling

77. Which device equalizes the pressure between low and high side of split AC during ?OFF? cycle?

- A) Discharge tube
- B) Suction tube
- C) Copper tube
- D) Capillary tube

Answer: D) Capillary tube

78. Which law is related to the constant PV at constant T?

- A) Renaults law
- B) Boyles law
- C) Pascal s law
- D) Charles s law

Answer: B) Boyles law

79. Why the idler pulley is used in belt driven car AC?

- A) Increase the belt tension
- B) Decrease the belt tension
- C) Increase the feathering
- D) Decrease the belt vibration

Answer: D) Decrease the belt vibration

80. What is the unit of heat in M.K.S system?

- A) K.W (Kilo Watt)
- B) KV (Kilo Volt)
- C) K.Cal (Kilo Calorie)
- D) B.T.U (British thermal unit)

Answer: C) K.Cal (Kilo Calorie)

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

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

Answer: B) Blower

82. Which safety device is used for compressor motor in window air conditioner?

- A) Relay
- B) Starting capacitor
- C) Running capacitor
- D) Over load protector

Answer: D) Over load protector

83. What is the revolving part of induction motor?

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

Answer: B) Rotor

84. What is the purpose of operating the fan motor first and then the compressor motor in Air conditioners?

- A) Cool the compressor by fan B) Minimise the noise of motors
C) Cool the coils first by fan D) Stop the high starting current by both motors

Answer: D) Stop the high starting current by both motors

85. What is the name of active component used in electronic circuit?

- A) DIAC B) TRIAC
C) Transistor D) SCR

Answer: C) Transistor

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

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

Answer: A) Vapour

87. What is the desiccant used in dehydrator of hydrocarbon charged RAC unit?

- A) Sulphur dioxide B) Silica gel
C) Ammonia D) Calcium chloride

Answer: B) Silica gel

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

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

Answer: A) Starting capacitor

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

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

Answer: C) Saw dust

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

- A) To lower the suction pressure close to 0.5 kg/cm² B) Prevent liquid entry to compressor
C) Avoid oil foaming D) Increase current of the compressor motor

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

91. Which refrigerant is used with VRF AC system?

- A) R 502 B) R 410A
C) R 11 D) R 12

Answer: B) R 410A

92. Which version of motors are used in ductless multisplit

system?

- A) Biooptional drive B) Variable frequency drive
C) Triooptional drive D) Constant frequency drive

Answer: B) Variable frequency drive

93. What is the remedy for broken bimetal thermo in a frost free refrigerator?

- A) Readjust the bimetal thermo B) Repair the bimetal thermo
C) Replace the bimetal thermo D) Reuse the bimetal thermo

Answer: C) Replace the bimetal thermo

94. Why frost accumulates in window AC evaporator?

- A) Air filter blocked B) Capillary chocking
C) Less charge of refrigerant D) Over charge of refrigerant

Answer: A) Air filter blocked

95. Which extinguishes the fire on electrical equipment?

- A) Water B) Halon
C) Oil D) Foam

Answer: B) Halon

96. What is the desirable property of POE lubricant?

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

Answer: B) Miscible with HFCs

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

- A) Either side gap less B) Uneven floor level
C) Either side gap more D) Uneven condenser level

Answer: B) Uneven floor level

98. What is the name of the caliper having one leg with an adjustable divider point and other leg is bent?

- A) Jenny Caliper B) Outside caliper
C) Spring joint caliper D) Inside Caliper

Answer: A) Jenny Caliper

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

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

Answer: A) Relay

100. Which application uses the capillary tube expansion device?

- A) Commercial AC plants B) Domestic RAC units
C) Industrial ice plants D) Hospital IAQ systems

Answer: B) Domestic RAC units

101. What is the expansion of PMV used in VRV system?

- A) Phase Modulate Valve
- B) Pass Modulate Valve
- C) Pulse Modulating Valve
- D) Prime Mover Valve

Answer: C) Pulse Modulating Valve

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

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

Answer: C) Easy to identify

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

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

Answer: A) Automatic expansion valve

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

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

Answer: B) Service valve

105. Which tool is used for bending long sheet metal?

- A) Folding bar
- B) Bench vice
- C) Shear
- D) Hand vice

Answer: A) Folding bar

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

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

Answer: C) Increase starting torque

107. What is the effect of bimetal thermo sticks in ON position in frost free refrigerator?

- A) Accumulation of frost
- B) Poor cooling
- C) More cooling
- D) No cooling

Answer: D) No cooling

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

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

Answer: B) Capillary tube

109. Which compressor is used only in central AC systems?

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

Answer: D) Centrifugal

110. What is the physical state of refrigerant at the outlet of condenser in vapour compression cycle?

- A) Low pressure vapour
- B) High pressure liquid
- C) High pressure vapour
- D) Low pressure liquid

Answer: B) High pressure liquid

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

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

Answer: D) Green

112. Which type of compressor is used for domestic refrigerator?

- A) Semi sealed compressor
- B) Hermetic compressor
- C) Centrifugal compressor
- D) Open type compressor

Answer: B) Hermetic compressor

113. What is the physical condition of refrigerant in hermetic dome of rotary compressor?

- A) LP Liquid
- B) LP Vapour
- C) HP Vapour
- D) HP Liquid

Answer: C) HP Vapour

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

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

Answer: D) Galvanised iron sheets

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

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

Answer: B) 3 to 18 volt

116. What is the method of starting a 3 phase slip ring induction motor?

- A) Using starting capacitor
- B) Adding resistance to rotor winding
- C) With running capacitor
- D) With starting relay

Answer: B) Adding resistance to rotor winding

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

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

Answer: C) Squirrel cage

118. What is the name of process that changes the used refrigerant to new product?

- A) Recycle
C) Recover
- B) Reclaim
D) Manufacture

Answer: B) Reclaim

119. What is the effect of pouring water on electrodes resistance in earth pit?

- A) Remains same
C) Decreases
- B) Equalises
D) Increases

Answer: C) Decreases

120. What is the angle of the tip of centre punch?

- A) 30 Degree
C) 90 Degree
- B) 60 Degree
D) 120 Degree

Answer: C) 90 Degree

121. What is the working condition of component during defrost cycle in frost free refrigerator?

- A) Thermostat cuts off
C) Evaporator fan motor is running
- B) Compressor is not running
D) Relay activated

Answer: B) Compressor is not running

122. What is the benefit of preventive maintenance in AC plant?

- A) Reduce water flow
C) Decrease refrigerant charge
- B) Prevent plant's break down
D) Increase running cost

Answer: B) Prevent plant's break down

123. How pressure drop is achieved in capillary tube of refrigeration cycle?

- A) The friction between refrigerant and oil
C) The friction between refrigerant and tube
- B) The friction between belt and pulley
D) The friction between piston and cylinder

Answer: C) The friction between refrigerant and tube

124. Which colour is used for painting condenser coil?

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

Answer: B) Black

125. Which control switch is connected in series with magnetic clutch in Car AC wiring?

- A) Automatic expansion valve
C) Thermostatic expansion valve
- B) Piston pin
D) Thermostat control

Answer: D) Thermostat control

126. What is the material composition of a Tin man's solder?

- A) 50% Tin 50% Bronze
C) 50% Tin 50% Zinc
- B) 50% Tin 50% lead
D) 50% Zinc 50% lead

Answer: B) 50% Tin 50% lead

127. What is the effect of moist air present inside the hermetic system?

- A) Increase the life of compressor
C) Less wear and tear in compressor
- B) Harmful to the compressor and motor
D) Capacity of compressor will increase

Answer: B) Harmful to the compressor and motor

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

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

Answer: A) 5 Ohms

129. Which process is done to remove the oil and other impurities from the condenser tubes?

- A) Flushing
C) Purging
- B) Evacuation
D) Pressurising

Answer: A) Flushing

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

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

Answer: B) - 15 Degree Centigrade

131. Which semiconductor material is used to make diodes?

- A) Silicon
C) Copper
- B) Aluminium
D) Steel

Answer: A) Silicon

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

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

Answer: B) 118 Degree

133. Which is the effective method for refrigerant recovery?

- A) Use of system's compressor
C) Push pull recovery
- B) Charge migration
D) Condensing unit

Answer: C) Push pull recovery

134. What is the unit of electric current?

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

Answer: D) Ampere

135. Which type of compressor is used in window air conditioner?

- A) Sealed type
- B) Belt drive
- C) Swash plate
- D) Open type

Answer: A) Sealed type

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

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

Answer: A) Propeller fan

137. Which device maintains a constant DC output?

- A) Current limiters
- B) Rectifier circuits
- C) Load regulators
- D) Voltage regulators

Answer: D) Voltage regulators

138. Which component is used in frost free refrigerator?

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

Answer: A) Timer switch

139. Which tool is used for descaling the condenser tubes in shell and tube condenser?

- A) Sponge brush
- B) Brass brush
- C) Teflon fibre brush
- D) Steel brush

Answer: B) Brass brush

140. Which component defrosts in frost free refrigerator?

- A) Capillary tube
- B) Bulb
- C) Thermostat
- D) Heater

Answer: D) Heater

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

- A) Liquid line
- B) Discharge line
- C) Service line
- D) Suction line

Answer: A) Liquid line

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

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

Answer: B) 15 cm

143. Which tool is used for bending, seaming and forming of sheet metal?

- A) Bench vice
- B) Shear
- C) Hand vice
- D) Stakes

Answer: D) Stakes

144. Why universal numbering system is adopted for different refrigerants?

- A) Fixing the drier combination
- B) Identifying the refrigerant's names
- C) Mixing the lubricant combination
- D) Identify the systems

Answer: B) Identifying the refrigerant's names

145. Which part connects the piston with small end of connecting rod in a reciprocating compressor?

- A) Piston bolt
- B) Piston pin
- C) Piston rings
- D) Piston sleeve

Answer: B) Piston pin

146. Which factors produce work?

- A) Force and distance
- B) Force and time
- C) Time and distance
- D) Force and power

Answer: A) Force and distance

147. Which type of insulating material is used for making ice box to cool beverages?

- A) Thermocole
- B) Glass wool
- C) Tar felt
- D) Fibre glass

Answer: A) Thermocole

148. Which type of diode is used for communication circuits?

- A) Rectifier diode
- B) Signal diode
- C) Zener diode
- D) Switching diode

Answer: B) Signal diode

149. What is the advantage of using capillary tube as an expansion device?

- A) Temperature balancing is easy
- B) Volume balancing is easy
- C) Pressure balancing is easy
- D) Complicate design

Answer: C) Pressure balancing is easy

150. 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

151. What is the use of capacitor in PSC operated induction

motor?

- A) Decrease the starting torque
B) Cancel the starting torque
C) Improve the power factor
D) Decrease the power factor

Answer: C) Improve the power factor

152. Which is a positive displacement compressor?

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

Answer: D) Scroll compressor

153. Which causes the clogged orifice in TEV of car AC system?

- A) Oxygen
B) Non condensable gases
C) Nitrogen
D) Moisture

Answer: D) Moisture

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

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

Answer: C) Run

155. What is the ozone depleting potential of R 134a Refrigerant?

- A) 1
B) 2
C) 3
D) 0

Answer: D) 0

156. What is the process of accumulation of ice on the surface of evaporator?

- A) Frosting
B) Melting of frost
C) Defrosting
D) Evacuating

Answer: A) Frosting

157. Which property is desirable for an ideal refrigerant?

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

Answer: A) High latent heat value

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

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

Answer: B) Control ON/OFF for compressor

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

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

Answer: A) 1000 sq.ft

160. What is the melting temperature of silver brazing rod?

- A) 1300 Degree F
B) 1200 Degree F
C) 1250 Degree F
D) 1120 Degree F

Answer: D) 1120 Degree F

161. What is the reason for Compressor does not start ?

- A) Defective OLP
B) Defective fan motor
C) Defective oscillation motor
D) Defective fresh air damper

Answer: A) Defective OLP

162. Which is used to clean the condenser fins of a refrigerator?

- A) Diluted acid
B) Fin comb
C) Soap solution
D) Painting brush

Answer: D) Painting brush

163. Which is disconnected by centrifugal switch is RSIR motor?

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

Answer: B) Starting winding

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

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

Answer: D) Latent heat

165. What is the supply voltage if a current of 2 ampere flows through 10 Ohm resistor in a circuit?

- A) 65 Volt
B) 55 Volt
C) 45 Volt
D) 20 Volt

Answer: D) 20 Volt

166. Which materials are used to make mallets?

- A) Wood, brass
B) Wood, cast iron
C) Rubber, brass
D) Wood, rubber

Answer: D) Wood, rubber

167. What is the least count of a metric micrometer?

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

Answer: D) 0.01 mm

168. How electrons flow in a battery circuit?

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

Answer: D) Negative polarity to positive polarity

169. Which domestic system uses automatic defrost?

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

Answer: D) Frost free refrigerator

170. What is the reason for swash plate compressor failure in car AC?

- A) Refrigerant charge normal B) Thermostat not working
C) Oil level is low D) Oil level is medium

Answer: C) Oil level is low

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

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

Answer: C) Resistors, capacitors and inductors

172. What is the condition of compressor motor if Ohm meter reads infinity across common and start terminals?

- A) Running winding open B) Running winding shorted
C) Starting winding open D) Starting winding shorted

Answer: C) Starting winding open

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

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

Answer: D) Plastic

174. What is the rotor speed with respect to stator field speed in an induction motor?

- A) More than the fly wheel B) Equal to the stator speed
C) Less than the stator speed D) More than the stator speed

Answer: C) Less than the stator speed

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

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

Answer: B) Ducting system

176. Which component belongs to indoor unit of split AC?

- A) Compressor B) Condenser
C) Drier D) Evaporator

Answer: D) Evaporator

177. What is the cause of reduced supply air throw though

air filter is clean in window AC?

- A) No frost in the evaporator B) Frost accumulated in the evaporator
C) No dust accumulated in the evaporator D) Dust accumulated in the condenser

Answer: B) Frost accumulated in the evaporator

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

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

Answer: B) Primary and secondary

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

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

Answer: B) Wearing gloves

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

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

Answer: C) 10-9 farad

181. What is the cause of oil foaming in compressor crankcase at the time of starting?

- A) Excess oil in crankcase B) Defective oil heater/circuit
C) Poor condensation D) Damaged oil separator

Answer: B) Defective oil heater/circuit

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

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

Answer: C) OLP

183. Which component is turned off while defrost heater is energised?

- A) Cabinet bulb B) Over load protector
C) Thermostat sensor D) Evaporator fan

Answer: D) Evaporator fan

184. Which type of conductor is used for bus bars?

- A) Standard conductor B) Thermal conductor
C) Stranded conductor D) Solid conductor

Answer: C) Stranded conductor

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

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

Answer: C) Watt meter

186. What is the cooling capacity of 1 TR in K Cal / hr?

- A) 6000
- B) 5000
- C) 3000
- D) 4000

Answer: C) 3000

187. Which component is replaced to prevent air entering the refrigerator cabinet?

- A) Door gasket
- B) Door hinges
- C) Door paint
- D) Thermostat

Answer: A) Door gasket

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

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

Answer: A) Zeotropes

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

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

Answer: A) Heat transfer rate

190. Where does the ozone layer exist in atmosphere?

- A) Ionosphere
- B) Exosphere
- C) Stratosphere
- D) Mesosphere

Answer: C) Stratosphere

191. Which material is used to avoid oxidation between aluminium conductor and the terminal?

- A) Petrol
- B) Shellac
- C) Grease
- D) Kerosene

Answer: C) Grease

192. Which evaporator is known as extended surface evaporator?

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

Answer: A) Finned evaporator

193. Why there is no frosting at the bottom only in plate coil evaporator used with refrigerator?

- A) Liquid in the coil
- B) Shortage of refrigerant
- C) Excess of refrigerant
- D) Oil present in the coil

Answer: D) Oil present in the coil

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

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

Answer: A) Wire mesh

195. Which is the numerical designation of ammonia refrigerant?

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

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

196. What is the category of R 502 refrigerant?

- A) Azeotropes
- B) Organic compounds
- C) Halocarbon
- D) Hydrocarbon

Answer: A) Azeotropes

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

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

Answer: D) Reduce noise of compressor

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

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

Answer: A) Flashing of liquid refrigerant

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

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

Answer: A) Forced air circulation

200. Which relay is used in capacitor start, capacitor run (CSR) compressor motor?

- A) Voltage relay
- B) Current relay
- C) Thermal relay
- D) Amperage relay

Answer: A) Voltage relay

201. Which file is used for filing wood?

- A) Single cut file
- B) Double cut file
- C) Smooth file
- D) Rasp cut file

Answer: D) Rasp cut file

202. Which component controls the thermostat and defrost heater in frost free refrigerator?

- A) Defrost timer
- B) OLP
- C) Thermoheater
- D) Relay

Answer: A) Defrost timer

203. Which type of insulation material is used in modern refrigerators?

- A) Poly urethane foam
- B) Thermocole
- C) Glass wool
- D) Saw dust

Answer: A) Poly urethane foam

204. What is top dead centre in reciprocating compressor cylinder?

- A) The piston starts in cylinder at bottom
- 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 bottom

Answer: B) The piston moves down from the point of cylinder

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

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

Answer: D) Bimetal thermo

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

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

Answer: D) Capacitor start and capacitor run

207. Which motor is used to drive the condenser fan of outdoor unit in ductable split air conditioner?

- A) Shaded pole motor
- B) Capacitor start capacitor run motor
- C) Permanent split motor (PSC)
- D) Three phase induction motor

Answer: C) Permanent split motor (PSC)

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

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

Answer: D) Bent snips

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

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

Answer: D) Fix descaling time for condenser

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

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

Answer: C) Fins and tube

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

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

Answer: A) All grille temperatures

212. 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) 130 p.s.i.a
- D) 160 p.s.i.a

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

213. Which tool is used for skinning the insulation of cables and cleaning the wire surface?

- A) Combination pliers
- B) Electrician's knife
- C) Hacksaw
- D) Firmer chisel

Answer: B) Electrician's knife

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

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

Answer: C) Condenser

215. What is the reason for excessive frost on evaporator coil in window AC?

- A) Blower rotating at higher speed
- B) Evaporator fins not blocked by dust
- C) Air filter blocked completely
- D) More air circulation in evaporator

Answer: C) Air filter blocked completely

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

- A) Ohm's law
- B) Lenz's law
- C) Newton's law
- D) Faraday's law

Answer: A) Ohm's law

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

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

Answer: C) Two

218. Which two components do the compressor function in vapour absorption system?

- A) Generator and evaporator
- B) Generator and absorber
- C) Generator and condenser
- D) Generator and separator

Answer: B) Generator and absorber

219. Which type of evaporator is used in frost free refrigerator?

- A) Wire mesh
- B) Shell and tube
- C) Plate type
- D) Finned tube

Answer: D) Finned tube

220. Where the manually defrosted water is stored in refrigerator?

- A) Top of the freezer
- B) Bottom of the evaporator
- C) Tray on top of the compressor
- D) Bottom of the condenser

Answer: C) Tray on top of the compressor

221. What is the remedy for defective heating element in a frost free refrigerator?

- A) Repair heater
- B) Reuse the heater and over load protector
- C) Replace heater and bimetal thermo
- D) Readjust the heater

Answer: C) Replace heater and bimetal thermo

222. Which method of refrigeration system is adopted in frost free refrigerator?

- A) Evacuating
- B) Vapour compression
- C) Water vapour
- D) Vapour absorption

Answer: B) Vapour compression

223. What is the equivalent absolute scale for centigrade?

- A) Rankine
- B) Celsius
- C) Fahrenheit
- D) Kelvin

Answer: D) Kelvin

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

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

Answer: B) 6000

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

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

Answer: A) Running winding

226. Where the refrigerant is stored in split AC during pump down operation?

- A) Evaporator
- B) Accumulator
- C) Condenser
- D) Compressor

Answer: C) Condenser

227. Which valve is used for gas charging and pressure checking in central AC plants?

- A) Non return valve
- B) Safety valve
- C) Solenoid valve
- D) Service valve

Answer: D) Service valve

228. How long the filter drier unit is used in car AC?

- A) 1 year
- B) 4 years
- C) 2 years
- D) 3 years

Answer: D) 3 years

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

- A) Servo 20
- B) SAE - 40
- C) Mineral oil
- D) POE

Answer: D) POE

230. What is the effect on defective thermostat sensor in split AC?

- A) AC unit runs continuously
- B) Relay malfunctions
- C) Unit consumes less power
- D) Increases super heat

Answer: A) AC unit runs continuously

231. Which type of condenser is directly placed on water spray and air?

- A) Air cooled condenser
- B) Evaporative condenser
- C) Water cooled condenser
- D) Shell and tube condenser

Answer: B) Evaporative condenser

232. Which set of components are used in FCU?

- A) Cooling coil, condenser, fan motor
- B) Air filter, blower, condenser
- C) Air filter, cooling coil, blower motor
- D) Compressor, fan, condenser

Answer: C) Air filter, cooling coil, blower motor

233. Which condition is maintained for refrigerant in high side of vapour compression system?

- A) Below its critical temperature
- B) Above its critical temperature
- C) Below its freezing temperature
- D) Above its freezing temperature

Answer: A) Below its critical temperature

234. How numerical designations of inorganic refrigerants are assigned?

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

Answer: D) Adding 700 to molecular mass of compound

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

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

Answer: D) 100 Degree Centigrade

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

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

Answer: B) Adjustable spanner

237. What is effect of compression process on refrigerant vapour?

- A) Decrease the pressure and temperature B) Increase the pressure and temperature
C) Heat the vapour below saturation D) Cool the vapour above saturation

Answer: B) Increase the pressure and temperature

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

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

Answer: D) Compressor and expansion device

239. 1 Which control device is used to maintain the room air temperature?

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

Answer: A) Thermostat

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

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

Answer: D) Pump down

241. What is the temperature set in thermostat that stops the compressor motor?

- A) Differential B) Cut in
C) Range D) Cut out

Answer: D) Cut out

242. Which material is used for making zener diode?

- A) Silicon B) Titanium
C) Lead D) Platinum

Answer: A) Silicon

243. Which instrument is used to identify the terminals of a compressor motor?

- A) Ammeter B) Ohm meter
C) Anemometer D) Voltmeter

Answer: B) Ohm meter

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

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

Answer: C) Leakage of refrigerant

245. What are the active components used in electronic circuits?

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

Answer: A) Transistors, diodes and SCRs

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

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

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

247. Which application uses the digital ICs?

- A) Amplifier B) Voltage regulator
C) Logic gates D) Tuned circuits

Answer: C) Logic gates

248. How the ability of a conductor is called if it induces the voltage in the same conductor?

- A) Conductance B) Resistance
C) Capacitance D) Self inductance

Answer: D) Self inductance

249. What is the name of electronic circuit?

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

Answer: B) Bridge rectifier

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

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

Answer: D) Suction vapour