

Duration: 60 Mins

Total Marks: 402

ID: ITISKILL1196SN

Student Name: _____	Roll No: _____
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1. What is the condition of compressor motor if Ohm meter reads infinity across common and start terminals?

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

2. Which colour is used for painting condenser coil?

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

3. Which instrument is used to measure atmospheric pressure?

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

4. Which substance absorbs heat and directly changes its state from solid to vapour?

- A) Secondary refrigerants    B) Primary refrigerants  
C) Dry ice    D) Ice

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

6. Which refrigerant control is used in car AC?

- A) Automatic expansion valve    B) Thermostatic expansion valve  
C) Thermal electric expansion valve    D) Hand shut off valve

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

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

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

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

9. Which device engages the compressor shaft in car AC?

- A) Thermo switch    B) Over load protector  
C) Electro magnetic clutch    D) Car engine pulley

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

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

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

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

12. What is the fault if excess deposit of tiny metal globules formed on the job surface along weld?

- A) Blow hole    B) Spatters  
C) Incomplete penetration    D) Slag inclusion

13. Which component belongs to outdoor unit of split AC?

- A) Compressor    B) Evaporator coil  
C) Air filter    D) Blower

14. What is the unit of electrical energy?

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

15. Which semiconductor material is used to make diodes?

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

16. What is the result if discharge reed is broken in open type compressor?

- A) Poor pumping    B) Oil pumping  
C) More pumping    D) No pumping

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

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

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

- A) 130 to 150 MFD
- B) 150 to 160 MFD
- C) 40 to 60 MFD
- D) 80 to 100 MFD

19. What is the effect of releasing HCFC refrigerants to atmosphere?

- A) Decreases GWP and ODP
- B) Decreases TEWI
- C) Inactive to TEWI
- D) Increases ODP and GWP

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

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

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

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

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

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

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

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

24. What is the effect of longer suction and liquid piping in AC?

- A) No pressure rise
- B) Less pressure drop
- C) Medium pressure rise
- D) More pressure drop

25. How does the evaporator frost affect the sub zero temperature thermally in refrigerator?

- A) As insulator
- B) As radiator
- C) As conductor
- D) As convector

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

- A) Pascal's law
- B) Boyle's law
- C) Charles's law
- D) Renault's law

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

- A) Below its critical temperature
- B) Below its freezing temperature

C) Above its freezing temperature

D) Above its critical temperature

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

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

29. Which domestic system uses automatic defrost?

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

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

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

31. How the cylinders of gas welding set are secured in trolley?

- A) Using chain
- B) Tied up with belt
- C) By cable
- D) Tightened with rope

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

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

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

- A) Motor Burnt
- B) Bearing worn out
- C) Shaft struck
- D) Blade bent

34. 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

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

- A) CO<sub>2</sub>
- B) Water
- C) Foam
- D) Dry powder

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

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

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

- A) Relay
- B) Timer

C) Bimetal thermo                      D) Thermostat

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

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

39. Where does the ozone layer exist in atmosphere?

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

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

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

41. What is the equivalent absolute scale for centigrade?

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

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

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

43. Which is the source of drive for compressor shaft in car AC?

- A) Blower fan                              B) Condenser fan  
C) Magnetic clutch                        D) Engine shaft

44. Which motor has the least starting torque?

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

45. Which type of expansion valve is used in window air conditioner?

- A) Capillary tube                         B) Automatic expansion valve  
C) Thermostatic expansion valve     D) Low side float valve

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

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

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

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

48. Which extinguishes the fire on electrical equipment?

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

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

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

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

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

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

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

52. What is the name of joint between pieces located at right angle to each other?

- A) T - Joint                                B) Grooved joint  
C) Lap joint                                D) Butt joint

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

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

54. What are the multi speed of blower motor used in indoor unit of ductable split air conditioner?

- A) Low - 800 rpm, medium - 850rpm, high - 920 rpm        B) Low - 900 rpm, medium - 950rpm, high - 1100 rpm  
C) Low - 500 rpm, medium - 550rpm, high - 720 rpm        D) Low - 1000 rpm, medium - 1200rpm, high - 1350 rpm

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

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

56. Which flame is used for welding brass?

- A) Oxidising flame                        B) Neutral flame  
C) Wide flame                              D) Carburising flame

57. Which material is used to make electrode holder for welding?

- A) Cast iron                                B) Cast iron  
C) Copper alloy                            D) Steel

58. Which terminals are momentarily shorted to start the compressor motor without relay?

- A) S and R terminal
- B) S and compressor body
- C) C and S terminal
- D) C and R terminal

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

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

60. What is the use of capacitor in PSC operated induction motor?

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

61. Which is the numerical designation of ammonia refrigerant?

- A) 700 + (Molecular mass of NH<sub>3</sub>) = 718
- B) 700 + (Molecular mass of NH<sub>3</sub>) = 719
- C) 700 + (Molecular mass of NH<sub>3</sub>) = 720
- D) 700 + (Molecular mass of NH<sub>3</sub>) = 717

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

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

63. Which type of evaporator is used in house hold refrigerator?

- A) Tube in tube evaporator
- B) Plate evaporator
- C) Shell and coil evaporator
- D) Shell and tube evaporator

64. 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

65. 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

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

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

67. What is the advantage of ductable air conditioner over window air conditioner?

- A) Noisy operation
- B) Needs more space
- C) Silent operation
- D) Higher cost

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

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

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

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

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

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

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

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

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

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

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

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

74. What is ensured before removing a leaky evaporator in a refrigerator?

- A) Removal of the thermostat sensor
- B) Recharge refrigerant to the system
- C) Check the drain tray of evaporator
- D) Pressurize the system with refrigerant

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

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

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

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

77. What type of compressor motor is used in inverter split AC?

- A) Centrifugal compressor motor  
B) Variable speed motor  
C) Constant speed compressor motor  
D) Open type compressor motor

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

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

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

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

80. Why frost accumulates in window AC evaporator?

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

81. What is the cause of water leakage in indoor unit of multi split AC?

- A) Efficient water pump  
B) Drain line not properly installed  
C) Condenser water pump defective  
D) Over flow of water from cooling tower sump

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

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

83. 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

84. Which cooling medium is used to condense the refrigerant vapour in plate and tube condenser?

- A) Water  
B) Natural Air  
C) Forced Air  
D) Brine solution

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

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

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

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

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

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

88. Which material is used for making fins of condenser in a window air conditioner?

- A) Brass  
B) Copper  
C) Cast iron  
D) Aluminium

89. Which electronic component is the voltage regulator?

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

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

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

91. What is the effect of releasing HFC refrigerants to the atmosphere?

- A) Increase ozone depleting potential  
B) Increase global warming potential  
C) Improve water pollution  
D) Decrease green house effect

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

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

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

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

94. 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

95. What is the unit of inductance?

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

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

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

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

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

98. What is the purpose of chemical spraying on finned condenser?

- A) Flush out the condenser tubes  
C) Remove the rust on the fins
- B) Blow the dust from the fins  
D) Correct the bends in fins

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

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

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

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

101. How much volume of oxygen is needed for complete combustion of one unit volume of acetylene?

- A) 2.5 times  
C) 3.5 times
- B) 4.5 times  
D) 1.5 times

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

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

103. What is the storage capacity of oxygen cylinder?

- A) 7 m<sup>3</sup>  
C) 5 m<sup>3</sup>
- B) 3 m<sup>3</sup>  
D) 6 m<sup>3</sup>

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

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

105. Which component is used in frost free refrigerator?

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

106. What is the effect on defective thermostat sensor in split

AC?

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

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

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

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

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

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

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

110. What is the cause of reduction in fan's air flow?

- A) Refrigerant under charge  
C) Fan capacitor is weak
- B) Supply voltage is normal  
D) Leak in the system

111. What is the process involved for converting AC to DC power supply?

- A) Regulation  
C) Convection
- B) Rectification  
D) Inversion

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

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

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

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

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

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

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

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

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

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

117. Which group the acetylene gas belongs?

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

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

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

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

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

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

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

121. Which valve is closed during compression stroke in reciprocating compressor?

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

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

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

123. Which valve is closed first while extinguishing flame in gas welding process?

- A) Hydrogen  
C) Acetylene
- B) Air  
D) Oxygen

124. Which refrigerant is inactive to ozone layer?

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

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

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

126. Which two terminals read the highest resistance while testing refrigerator compressor motor?

- A) Common and run  
C) Start and compressor body
- B) Start and run  
D) Start and common

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

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

128. Which is adjusted to the size of electrode in welding process?

- A) Conductor  
C) Ampere
- B) Length  
D) Thickness

129. Which is connected in series with start capacitor in motor circuit?

- A) Common terminal  
C) Running winding
- B) Running Terminal  
D) Starting winding

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

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

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

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

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

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

133. Which is the inorganic refrigerant?

- A) R 500  
C) R 630
- B) R 717  
D) R 170

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

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

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

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

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

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

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

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

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

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

**139.** What does the number 4 of R 134a indicate?

- A) Number of hydrogen atoms  
B) Number of carbon atoms  
C) Number of fluorine atoms  
D) Number of chlorine atoms

**140.** Which is a positive displacement compressor?

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

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

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

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

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

**143.** What is the purpose of providing gas ballast in two stage rotary vacuum pump?

- A) Avoid condensation of water vapour  
B) Prevent condensation of nitrogen  
C) Avoid condensation of refrigerant  
D) Prevent condensation of dry air

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

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

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

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

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

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

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

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

**148.** What is applied to find the leakage on acetylene gas connection?

- A) By smell  
B) Halide torch  
C) Soap bubbles  
D) LPG torch

**149.** How many terminals are there in a Silicon Controlled Rectifier (SCR)?

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

**150.** Which component belongs to indoor unit of split AC?

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

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

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

**152.** What is the purpose of accumulator in a refrigerator?

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

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

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

**154.** Which part of the compressor converts rotary into reciprocating motion of piston in car AC?

- A) Crank shaft  
B) Connecting rod  
C) Swash plate  
D) Magnetic clutch

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

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

156. What is starving in extinguishing the fire?

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

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

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

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

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

159. What is the safety device used during arc welding?

- A) Screw clamp
- B) Lugs for welding
- C) Electrode holder
- D) Hand screen

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

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

161. What is the unit of electric current?

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

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

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

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

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

164. What is the precautionary measure taken if flame snaps out and back fires?

- A) Shut off acetylene first, oxygen next and dip in water
- B) Shut off oxygen first and acetylene next and dip in water
- C) Shut off both valve, oxygen first and dip in water
- D) Shut off both valve quickly and dip in water

165. What is the maximum TR capacity operated with Single

phase AC supply?

- A) 1.5 TR
- B) 1.00 TR
- C) 2.0 TR
- D) 5 TR

166. Which motor is used to drive the blower of indoor unit in ductable split air conditioners?

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

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

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

168. What is the reason for air conditioner running continuously but no cooling effect ?

- A) Refrigerant leaked
- B) Refrigerant is more
- C) Over charged oil
- D) Condensation poor

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

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

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

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

171. Which device maintains a constant DC output?

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

172. Which is the constant reference for the working of AEV?

- A) Discharge pressure
- B) Oil temperature
- C) Volume expansion
- D) Suction pressure

173. What is the category of R 502 refrigerant?

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

174. Which factor determines the current setting during welding?

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

175. Which refrigerant is highly flammable?

- A) CFC - Chloro fluoro carbon  
B) HFC - Hydro fluoro carbon  
C) HCFC - Hydro chloro fluoro carbon  
D) HC - Hydro carbon

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

**176.** What is the test pressure of condenser coils during manufacture?

- A) 150 psig  
B) 350 psig  
C) 250 psig  
D) 450 psig

**177.** 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

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

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

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

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

**180.** 1 Which control device is used to maintain the room air temperature?

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

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

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

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

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

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

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

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

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

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

**186.** Which evaporator is known as extended surface evaporator?

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

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

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

**188.** How electrons flow in a battery circuit?

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

**189.** What is the test pressure of cooling coils during manufacture?

- A) 450 psig  
B) 350 psig  
C) 250 psig  
D) 150 psig

**190.** What is the equivalent of one micron in millimeter?

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

**191.** What is the absolute zero temperature in degree centigrade?

- A) 0 Degree Centigrade  
B) -273 Degree Centigrade  
C) 100 Degree Centigrade  
D) 212 Degree Centigrade

**192.** Which part of the refrigerator cools the liquid refrigerant in capillary tube?

- A) Suction line  
B) Discharge line  
C) Evaporator  
D) Condenser

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

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

**194.** What is the material composition of a Tin man s solder?

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

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

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

**196.** Which application uses the digital ICs?

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

**197.** Which type of diode is used for communication circuits?

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

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

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

**199.** What is the effect of contamination in refrigeration system?

- A) Low humidity
- B) Poor cooling
- C) Low pressure
- D) High heating

**200.** What is the reason for the compressor does not start but the fan motor works normally in window AC?

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

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

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

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

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

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

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

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

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

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

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

**206.** What is the cause for noise in indoor unit of a multi split air conditioner?

- A) Refrigerant leak
- B) Running current is high
- C) Compressor not working
- D) Blower is loosened

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

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

**208.** What is the rate of doing work?

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

**209.** Why universal numbering system is adopted for different refrigerants?

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

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

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

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

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

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

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

**213.** Which is the accurate method of refrigerant charging in car AC?

- A) Dial a charge method
- B) Weighing method
- C) Sight glass bubbles method
- D) Suction pressure method

**214.** Which method is used to check the leakage of hydro fluoro carbon refrigerants?

- A) Electric torch
- B) Sulphur candles
- C) Litmus paper
- D) Electronic leak detector

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

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

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

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

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

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

218. Which thermodynamic process the temperature is kept constant?

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

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

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

220. Which winding has high inductance value in CSR compressor motor?

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

221. 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) 160 p.s.i.a
- C) 130 p.s.i.a
- D) 140 p.s.i.a

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

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

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

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

224. What is the physical change of refrigerant in evaporator?

- A) Vapour to solid
- B) Solid to liquid
- C) Vapour to liquid
- D) Liquid to vapour

225. Which refrigerant blend is highly flammable?

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

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

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

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

- A) Air washer
- B) Damper
- C) Filter drier
- D) Air filter

228. Which instrument is used for measuring heat?

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

229. What is the reason for air conditioner running continuously but no cooling effect ?

- A) Refrigerant leaked
- B) Over charged oil
- C) Refrigerant is more
- D) Condensation poor

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

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

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

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

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

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

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

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

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

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

235. Which component is connected in series with defrost heater in a frost free refrigerator?

- A) Heating element                      B) Cabinet bulb  
C) Door switch                              D) Bimetal thermo

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

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

**237.** Which refrigerant is used in domestic refrigerator?

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

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

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

**239.** Which component actuates the defrost cycle in frost free refrigerator?

- A) Defrost heater                              B) Timer  
C) Bimetal thermo                              D) Relay

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

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

**241.** 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

**242.** What is the unit of capacitance?

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

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

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

**244.** What is the weld test without destroying or breaking the joint?

- A) Magnetic test                                B) Radio graphic test  
C) Destructive test                              D) Non destructive test

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

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

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

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

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

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

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

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

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

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

**250.** Where the relay coil is internally connected in voltage relay?

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

**251.** How many hydrogen atoms are present in R 134a?

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

**252.** Which winding has more inductance in refrigerator compressor motor?

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

**253.** Which component belongs to outdoor unit of split AC?

- A) Air filter                                      B) Compressor  
C) Blower                                         D) Evaporator coil

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

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

**255.** What is the least count of a metric micrometer?

- A) 0.1 mm                                        B) 0.001 mm  
C) 000.1 mm                                      D) 0.01 mm

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

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

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

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

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

**267.** What is the energy of a body by virtue of its position?

- A) Potential energy                  B) Kinetic energy  
C) Wind energy                      D) Electrical energy

**258.** What is the colour of oxygen hose pipe in oxy - acetylene welding set?

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

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

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

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

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

**269.** Which property is desirable for an ideal refrigerant?

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

**260.** Which material is used for making ICs?

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

**270.** Which winding is made of thin wire in single phase motor?

- A) Main                                B) Starting  
C) Running                              D) Series

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

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

**271.** What is the capacity of doing work?

- A) Power                                B) Force  
C) Work                                 D) Energy

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

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

**272.** 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

**263.** Which power supply has the fixed polarity?

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

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

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

**264.** What is the tool used to remove the slag from the welding?

- A) Chipping hammer                  B) Cross peen hammer  
C) Tongs                                D) Ball peen hammer

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

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

**265.** Which motor is used to drive the blower of indoor unit in ductable split air conditioners?

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

**275.** Why the acetylene gas is avoided with copper pipe lines or fittings in oxy-acetylene welding set?

- A) Copper is not flexible              B) Copper pipe consumes more acetylene  
C) Copper is expensive                D) Copper and acetylene form explosive

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

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

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

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

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

**278.** What is ensured before mounting condenser in car AC?

- A) Condenser bottom line to discharge line      B) Condenser top line to TEV inlet  
C) Accessibility for future service                    D) Condenser in line with car radiator

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

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

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

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

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

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

**282.** What is smothering in fire extinguishing?

- A) Use water to lower temperature                    B) Pouring of CTC  
C) Flashing with dry powder      D) Cutting off oxygen supply to fire

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

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

**284.** What type of heat is absorbed by primary refrigerant?

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

**285.** What is the advantage of inverter split AC?

- A) Current drawn is high            B) Eliminates compressor  
C) High energy efficiency            D) Low energy efficiency

**286.** How to prevent the small pieces of glass wool affecting

the eyes?

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

**287.** 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) Water splashes condenser      D) More air flows into the condenser

**288.** 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) Several outdoor units for one indoor unit      D) two outdoor units for one indoor unit

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

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

**290.** Which metal is alloyed with zinc to make brass?

- A) Iron                                  B) Aluminium  
C) Bronze                                D) Copper

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

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

**292.** Which process absorbs heat from the cabinet in refrigerator?

- A) Condensation                    B) Compression  
C) Evaporation                        D) Expansion

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

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

**294.** What is the equivalent of one microfarad in farad?

- A)  $10^{-6}$  farad                        B)  $10^{-9}$  farad  
C)  $10^{-3}$  farad                        D)  $10^{-12}$  farad

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

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

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

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

297. 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

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

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

299. What is the atmospheric pressure at sea level?

- A) 1.033 kg/cm<sup>2</sup>      B) 1.5 Kg/cm<sup>2</sup>  
C) 1.3 Kg/cm<sup>2</sup>      D) 1.6 Kg/cm<sup>2</sup>

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

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

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

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

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

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

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

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

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

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

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

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

306. Which control opens the compressor motor circuit in the

event of continuous overload?

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

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

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

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

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

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

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

310. What is the advantage of a hermetically sealed compressor in refrigerator?

- A) Easily serviceable      B) Silent operation  
C) Cost is high      D) Noise is more

311. What is the reason for poor compression?

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

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

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

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

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

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

- A) Flaring      B) Brazing  
C) Charging      D) Swaging

315. Which is the hydrocarbon refrigerant?

- A) R 500      B) R 600a  
C) R123      D) R 12

316. Which is the welding method if the filler rod only is fused?

- A) Pressure
- B) Fusion
- C) Non fusion
- D) Forge

317. What is ensured before starting a vacuum pump?

- A) Weight of vacuum pump
- B) Capacity of the pump
- C) Correct oil level
- D) Available ac power supply

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

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

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

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

320. Which component defrosts in frost free refrigerator?

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

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

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

322. Which type of condenser is used in window Air conditioner?

- A) Water cooled
- B) Natural convection
- C) Forced convection
- D) Evaporative

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

- A) CO<sub>2</sub>
- B) SO<sub>2</sub>
- C) AIR
- D) NH<sub>3</sub>

324. Which part of car AC compressor actuates the piston directly?

- A) Rotor and stator
- B) Crank shaft and connecting rod
- C) Blower unit
- D) Swash plate

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

- A) Blade bent
- B) Bearing worn out
- C) Shaft struck
- D) Motor Burnt

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

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

327. Which materials are used to make mallets?

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

328. Which refrigerant property is desirable for V.C system?

- A) Low boiling point
- B) Corrosive to metals
- C) Low latent heat valve
- D) Low Dielectric strength

329. Which capacity of fan motor is used in 1Ton window air conditioner?

- A) 1/20 HP
- B) 1/5 HP
- C) 1/16 HP
- D) 1/10 HP

330. 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

331. Which type of motor drive is used in hermetic compressor in refrigerator?

- A) Push drive
- B) Belt drive
- C) Gear drive
- D) Direct drive

332. What is the cause for frequent tripping of circuit breaker while starting a single phase motor?

- A) No load on the motor
- B) Winding open
- C) Motor belt removed
- D) Winding short

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

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

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

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

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

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

**336.** Which material is used for making zener diode?

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

**337.** Which type of compressor is used for domestic refrigerator?

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

**338.** What is the use of anemometer?

- A) Check water flow
- B) Measure air flow
- C) Measure voltage
- D) Produce current

**339.** 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

**340.** What is the tool used for holding hot metals?

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

**341.** Which is the green house gas?

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

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

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

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

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

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

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

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

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

**346.** Which file is used for filing wood?

- A) Double cut file
- B) Rasp cut file

- C) Smooth file
- D) Single cut file

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

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

**348.** Which type fan blade is used with out door unit of split AC?

- A) Guide vane
- B) Centrifugal
- C) Propeller
- D) Vane

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

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

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

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

**351.** What is the full form of the relay - PTC?

- A) Permanent temperature control
- B) Positive temperature coefficient
- C) Polar terminal checking
- D) Positive terminal circuit

**352.** Which material is used for making service valve?

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

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

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

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

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

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

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

**356.** How pressure drop is achieved in capillary tube of

refrigeration cycle?

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

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

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

**358.** What is the capacity of compressor motor used in 1Ton window air conditioner?

- |            |            |
|------------|------------|
| A) 0.95 HP | B) 1.00 HP |
| C) 0.50 HP | D) 0.75 HP |

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

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

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

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

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

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

**362.** What is the purpose of using goggles during chipping the slag from weld bead?

- |                    |                    |
|--------------------|--------------------|
| A) To protect leg  | B) To protect eyes |
| C) To protect hand | D) To protect head |

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

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

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

- |                          |                     |
|--------------------------|---------------------|
| A) $(R1 \times R2)$ Ohms | B) $(R1 - R2)$ Ohms |
| C) $(R1 + R2)$ Ohms      | D) $(R1 / R2)$ Ohms |

**365.** Which type of conductor is used for bus bars?

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

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

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

**367.** Which type fan blade is used with out door unit of split AC?

- |               |                |
|---------------|----------------|
| A) Guide vane | B) Vane        |
| C) Propeller  | D) Centrifugal |

**368.** What is the revolving part of induction motor?

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

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

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

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

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

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

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

**372.** What is the unit of capacitance used with single phase induction motors in domestic RAC system?

- |                 |                |
|-----------------|----------------|
| A) Kilo ohm     | B) Microfarad  |
| C) Milli ampere | D) Milli henry |

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

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

**374.** Which insulating material is used in duct work?

- |            |               |
|------------|---------------|
| A) Wood    | B) Rubber     |
| C) Plastic | D) Glass wool |

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

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

**376.** Which two components do the compressor function in

vapour absorption system?

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

**377.** What is the function of refrigerant fluid in a refrigerator?

- A) Absorbs heat from inside the cabinet    B) Absorbs heat from bottom side cabinet  
C) Absorbs heat from outside the cabinet    D) Releases heat inside the cabinet

**378.** What is the remedy for the defective OLP in a window air conditioner?

- A) Repair the heater element    B) Replace the OLP  
C) Repair the OLP    D) Remove the parts

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

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

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

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

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

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

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

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

**383.** What is the name of electronic circuit?

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

**384.** What is the value of starting capacitor used for 1TR window air conditioner?

- A) 40 MFD    B) 60 MFD  
C) 100 MFD    D) 80 MFD

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

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

**386.** Where the refrigerant vapour is compressed in scroll compressor?

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

**387.** What is the advantage of periodical cleaning of air filter?

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

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

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

**389.** How the maximum reverse voltage across the diode is termed in reverse biased condition?

- A) Ripple frequency    B) Diode voltage  
C) Peak rectification voltage    D) Peak inverse voltage

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

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

**391.** Which factors produce work?

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

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

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

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

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

**394.** What is the cause of reduced supply air throw though air filter is clean in window AC?

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

**395.** Which expansion valve is suitable for constant load operation?

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

**396.** Which gas is used for pressurising and testing leakage of RAC system?

- A)  $O_2$                                   B)  $N_2$   
C)  $O_3$                                   D)  $SO_2$
- 

**397.** What is the desirable property of POE lubricant?

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

**398.** How many fan motors are used in split AC?

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

**399.** How to neutralise the concentration of leaked ammonia from air

- A) Spraying a lot of water          B) Shut down the plant  
C) Recover ammonia from air      D) Spray Hydrochloric acid
- 

**400.** 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 A  
C) Terminal B                         D) Terminal C
- 

**401.** How the capacity of refrigerator is expressed?

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

**402.** What is the effect of operating the compressor under 5 of Hg vacuum during pump down process?

- A) Prevent motor damage in dome      B) Prevent piston damage  
C) Prevent leakage in service valve        D) Pumps oil to condenser
-