

Student Name: _____ Roll No: _____

1. What is the effect on adjusting the thermostat differential too close in package AC?

- A) Unit runs continuously B) Normal cooling effect
C) Unit does not start D) Unit starts and stops frequently

2. Which instrument is used for measuring heat?

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

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

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

4. 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

5. Which process absorbs heat from the cabinet in refrigerator?

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

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

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

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

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

8. What is ensured before mounting condenser in car AC?

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

9. Which component absorbs heat from return air in package

AC?

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

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

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

11. What is the remedy for insufficient cool supply air from package AC?

- A) Replace the blower belt B) Flush out the condenser
C) Repair the compressor D) Check for gas leak

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

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

13. What is the capacity of air conditioner if it removes 18000 BTU/hr heat from the space?

- A) 1.00 T.R B) 1.25 T.R
C) 2.00 T.R D) 1.50 T.R

14. How the potential relay coil is connected internally to the relay terminals?

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

15. How the capacity of refrigerator is expressed?

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

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

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

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

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

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

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

19. Which refrigerant is used with VRF AC system?

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

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

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

21. Which refrigerant blend is highly flammable?

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

22. What are the controls connected in series with the magnetic clutch of compressor in car AC?

- A) LPC, Blower Fan Motor
- B) HPC, Condenser Fan Motor
- C) Thermostat, LPC, HPC
- D) Thermostat, Condenser Fan Motor

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

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

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

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

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

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

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

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

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

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

28. What is the advantage of electrically interlocked circuit for motors and pumps in a chiller plant?

- A) Start the loads when not needed
- B) Start the loads non sequentially
- C) Start and stop the loads sequentially
- D) Stop the loads when not required

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

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

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

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

31. Which atmospheric standard air is used in calculating air velocity?

- A) 22 Degree Centigrade and 760 mm
- B) 20 Degree Centigrade and 760 mm
- C) 23 Degree Centigrade and 760 mm
- D) 21 Degree Centigrade and 760 mm

32. Which lubricant oil is used with R-134a car AC system?

- A) Mineral oil
- B) Poly alkylene glycol
- C) Low viscosity oil
- D) High viscosity oil

33. Which component protects the electrical circuit and loads from excess current?

- A) Relay
- B) Fuse
- C) Relief valve
- D) Transformer

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

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

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

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

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

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

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

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

38. What is the cause of water hammer or valve chatter in water pump lines?

- A) Low pump pressure B) High pump pressure
C) Blocked suction line D) Low velocity of water

39. What is the reason for having 2.5 kg/cm² on low and high side of car AC system?

- A) Defective compressor valve B) Defective thermostat
C) Too close differential in LPC D) Excessive oil in evaporator

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

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

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

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

42. What is the cause of bubbles in liquid line sight glass after gas charging the system?

- A) Excess refrigerant B) Nitrogen trapped in system
C) Oil bubbles in sight glass D) Shortage of refrigerant

43. Which power supply has the fixed polarity?

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

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

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

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

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

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

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

47. Which colour is used for painting condenser coil?

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

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

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

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

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

50. 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

51. Which is the minimum vacuum level preferred in microns before gas charging a system?

- A) 2000 B) 500
C) 750 D) 1750

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

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

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

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

54. Which psychrometer uses battery operated small fan?

- A) Laboratory psychrometer B) Sling psychrometer
C) Aspirating psychrometer D) Exhausting psychrometer

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

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

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

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

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

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

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

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

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

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

60. Which version of motors are used in ductless multisplit system?

- A) Bioptional drive B) Constant frequency drive
C) Variable frequency drive D) Trioptional drive

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

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

62. What is the reason for low discharge line temperature in chiller AC?

- A) Insufficient refrigerant B) Excess refrigerant
C) High evaporator load D) Condenser water pump not working

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

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

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

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

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

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

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

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

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

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

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

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

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

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

70. 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

71. What is the name of electronic circuit?

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

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

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

73. Which schedule is followed for lubricating the cooling tower fan motor in package AC?

- A) Weekly B) Daily
C) Quarterly D) Biweekly

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

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

75. Which safety control is actuated by excess of heat /current in package AC?

- A) High pressure cut-out B) Over load relay
C) Selector switch D) Water flow switch

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

- A) Water pressure gauge B) High pressure gauge

C) Oil pressure gauge

D) Compound gauge

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

A) Three phase double end shaft motor

B) Three phase single shaft motor

C) Single phase double end shaft motor

D) Single phase single shaft motor

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

A) Guide vane

B) Centrifugal

C) Propeller

D) Vane

79. Which is the inorganic refrigerant?

A) R 500

B) R 630

C) R 717

D) R 170

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

A) Pulse Modulating Valve

B) Prime Mover Valve

C) Phase Modulate Valve

D) Pass Modulate Valve

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

A) Loose connections

B) Humidity

C) Quality is bad

D) Too tight connection contacts

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

A) Thermostat control

B) Oil pressure cut out

C) Low pressure cut out

D) High pressure cut out

83. Which types of heat are considered for occupants heat gain in AC space?

A) Sensible and radiant heat

B) Radiant and latent heat

C) Sensible and latent heat

D) Specific and sensible heat

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

A) Ducting system

B) Interlocked wiring

C) Refrigerant flow

D) Refrigeration

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

A) Run capacitor

B) No capacitor is connected

C) Fan capacitor

D) Start capacitor

86. Which metal is alloyed with zinc to make brass?

A) Bronze

B) Aluminium

C) Copper

D) Iron

87. What is the absolute zero temperature in degree centigrade?

A) 100 Degree Centigrade

B) -273 Degree Centigrade

C) 0 Degree Centigrade

D) 212 Degree Centigrade

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

A) 12 meters

B) 15 meters

C) 25 meters

D) 20 meters

89. Which is eliminated from the system in vacuumising process?

A) Humidity

B) Moisture

C) Pressure

D) Temperature

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

A) Silent operation

B) Needs more space

C) Higher cost

D) Noisy operation

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

A) Air filter

B) Damper

C) Filter drier

D) Air washer

92. Which thermodynamic process the temperature is kept constant?

A) Isothermal process

B) Constant volume process

C) Isobaric process

D) Constant pressure process

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

A) No dust accumulated in the evaporator

B) Dust accumulated in the condenser

C) Frost accumulated in the evaporator

D) No frost in the evaporator

94. What is the capacity of doing work?

A) Force

B) Energy

C) Power

D) Work

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

A) Voltage

B) Current

C) Conductance

D) Resistance

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

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

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

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

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

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

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

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

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

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

101. Which component absorbs the maximum heat from the cabinet materials in frost free refrigerator?

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

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

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

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

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

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

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

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

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

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

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

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

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

108. What is the cause of compressor knocking sound in chiller AC plant?

- A) Shortage of refrigerant B) Liquid refrigerant entry
C) Air entered into system D) High oil level

109. 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) Pipe lines with more joints D) Install units as far as possible

110. What is the equivalent absolute scale for centigrade?

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

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

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

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

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

113. Which motor has the least starting torque?

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

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

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

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

- A) Capacitor start capacitor run motor B) Shaded pole motor

C) Three phase induction motor
D) Permanent split motor (PSC)

A) Up to 80%
C) Up to 95%

B) Up to 90%
D) Up to 85%

116. Which is the hydrocarbon refrigerant?

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

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

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

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

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

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

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

120. What is the full form of the relay - PTC?

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

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

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

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

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

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

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

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

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

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

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

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

127. What is the remedy for scaled up water tubes of water cooled condenser?

A) Clean the surface
C) Wash the condenser with soap water
B) Descale the condenser tubes
D) Wipe the condenser fins

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

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

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

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

130. Which application uses the capillary tube expansion device?

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

131. Which refrigerant is highly flammable?

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

132. What is phenotherm?

A) Temperature measuring device
C) An insulation material
B) A chemical substance
D) A ducting clamp

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

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

134. What is the advantage of water pressure cut out switch in package AC?

A) Raise condensation
B) Increase refrigerant flow

C) Improve evaporation D) Protect the compressor

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

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

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

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

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

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

138. What is the remedy for noisy blower with excessive axial play in AHU?

A) Replace blower unit B) Change belts
C) Apply grease D) Change the air filter

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

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

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

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

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

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

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

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

143. 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

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

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

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

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

146. What is the reason for water dripping inside the AC bus?

A) Poor insulation at the bottom of drain pan B) Drain pan is leak proof
C) Leakage of evaporator coil D) Worn out shock absorbers on the bus wheels

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

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

148. 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 compressor by fan D) Cool the coils first by fan

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

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

150. What is the advantage of glass fibre ducting?

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

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

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

152. What is the pH level of water used for final rinsing of condenser tubes after descaling?

A) 7 to 7.5 B) 10 to 12
C) 4 to 4.5 D) 9 to 10.5

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

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

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

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

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

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

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

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

157. What is the revolving part of induction motor?

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

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

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

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

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

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

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

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

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

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

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

163. Which parameter of heater element is increased in OLP

due to hot compressor dome?

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

164. Which evaporator is known as extended surface evaporator?

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

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

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

166. Which semiconductor material is used to make diodes?

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

167. What is the reason for short cycling of LP control switch in AC plant?

- A) Excess of water flow B) Shortage of water flow
C) Shortage of refrigerant D) Excess of refrigerant

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

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

169. What is meant by static pressure?

- A) Still air pressure in duct B) Moving air pressure
C) Air diffusing pressure D) Ambient air pressure

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

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

171. What is the cause for compressor cut off by HP cut out in package AC?

- A) Mild gas leak in evaporator B) Cooling tower fan failure
C) Compressor grounded D) Aged wire

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

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

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

- A) Forward curved fan
- C) Propeller fan

- B) Centrifugal fan
- D) Radial fan

174. Which document is used for writing the AC system parameters round the clock?

- A) Plain sheet
- C) Log sheet
- B) Note sheet
- D) Trip sheet

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

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

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

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

177. What is the use of dehydrator?

- A) Absorb moisture
- C) Absorb refrigerant
- B) Absorb heat
- D) Absorb oil

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

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

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

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

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

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

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

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

182. Which parameter indicates that the central AC system has non condensable gas?

- A) Condenser outlet water temperature
- C) Condenser inlet water temperature
- B) Liquid line temperature
- D) Pressure drop in discharge line

183. What is the purpose of using rubber pads while installing compressor?

- A) Prevent leaks
- B) Absorb vibration

- C) Locate the parts

- D) Fill gaps

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

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

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

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

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

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

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

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

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

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

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

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

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

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

191. What is the diameter of liquid line used with 5 TR if the suction line is 7/8 OD by up flow?

- A) 1/2? OD
- C) 3/8 ? OD
- B) 3/4 ?OD
- D) 5/16 ? OD

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

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

193. What is the dew point depression of air if dry bulb and dew point temperatures are 36 Degree Centigrade and 32 Degree Centigrade respectively?

- A) 8 Degree Centigrade
- B) 4 Degree Centigrade

C) 6 Degree Centigrade D) 2 Degree Centigrade

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

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

A) N₂ B) O₂
C) O₃ D) SO₂

195. What is the differential of low pressure cut out control switch? If LPC cuts out at 2.2kg/ cm² and LPC cut in at 2.4kg/ cm²

A) 0.4 kg/ cm² B) 0.8 kg/ cm²
C) 0.2 kg/ cm² D) 0.1 kg/ cm²

196. What is the percentage of HCl used for making descaling solution with water?

A) 0.55 B) 0.05
C) 0.01 D) 0.15

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

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

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

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

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

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

200. Which property is considered for a temperature range in selecting a lubricant oil?

A) Natural B) Artificial
C) Viscosity D) Cost effective

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

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

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

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

203. 1 Which control device is used to maintain the room air temperature?

204. Which safety control stops the compressor motor if there is leakage of refrigerant?

A) LP cut out B) HP cut out
C) Oil pressure cut out D) Thermostat

205. 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

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

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

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

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

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

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

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

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

210. What is the rate of doing work?

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

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

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

212. Which type of heat is absorbed by water while passing through the cooling coils of an indirect expansion chiller plant?

A) Latent heat B) Sensible heat
C) Super heat D) Specific heat

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

motor?

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

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

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

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

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

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

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

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

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

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

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

219. What is the position of knob selected in thermostat to check its working condition in package AC?

- A) Low cool
- B) Fan only
- C) Medium cool
- D) High cool

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

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

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

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

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

- A) Air
- B) Refrigerant

C) Oxygen

D) Nitrogen

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

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

224. What is the purpose of valves in chiller AC plants?

- A) Regulate the flow of water
- B) Control air flow
- C) Increase pressure
- D) Removes dust

225. How to prevent the small pieces of glass wool affecting the eyes?

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

226. Which domestic system uses automatic defrost?

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

227. Which material is used for making air ducts in chiller AC plant?

- A) Glass wool
- B) Cast iron
- C) Galvanised iron
- D) Thermo Cole

228. 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) Increase current of the compressor motor
- C) Prevent liquid entry to compressor
- D) Avoid oil foaming

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

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

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

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

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

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

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

- A) Industrial air-conditioner
- B) Split air-conditioner
- C) Central air-conditioner
- D) Window air-conditioner

233. Which refrigerant is used in vapour compression cycle?

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

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

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

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

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

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

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

237. Which process increases the specific humidity of air at constant dry bulb temperature?

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

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

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

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

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

240. What is the desirable property of POE lubricant?

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

241. How the pH of water is checked for acidic or alkaline?

- A) By hygro meter
- B) Pressure relief valve
- C) By hydro meter
- D) Using litmus paper

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

- A) Diluted acid
- B) Painting brush

- C) Fin comb
- D) Soap solution

243. Which is the green house gas?

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

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

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

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

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

246. What is the effect on compressor motor if water pressure switch trips out in package AC?

- A) Motor burns out
- B) Does not stop
- C) Stops working
- D) Does not start

247. Which safety device is attached to nitrogen cylinder?

- A) Two stage pressure regulator
- B) Compound gauge
- C) Fuse plug
- D) Automatic pressure bypass valve

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

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

249. What is the velocity pressure of air in a duct if the total pressure and static pressure are known?

- A) Difference in static and total pressures
- B) Sum of static and total pressures
- C) Difference in dynamic and total pressures
- D) Sum of dynamic and total pressures

250. Which parameter of air is measured by the thermometer bulb that is wetted in sling psychrometer?

- A) Dew point temperature
- B) Evaporating temperature
- C) Wet bulb temperature
- D) Dry bulb temperature

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

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

252. Which fan motor speed is used with outdoor unit in split

AC?

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

253. What is the remedy for no lubrication even if the sight glass shows proper oil level?

- A) Replace oil pump
- B) Replace oil pressure cut out
- C) Add oil to crankcase
- D) Replace oil pressure gauge

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- A) Activated carbon
- B) Activated alumina

- C) Molecular sieve type
- D) Silica gel

262. What is the periodical checking for blower belt in package AC?

- A) Weekly
- B) Monthly
- C) Yearly
- D) Daily

263. Which is the effective method for refrigerant recovery?

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

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

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

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

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

266. Which fan is used to handle the direction of air flow 90 Degree away from the inlet?

- A) Centrifugal blower fan
- B) Axial propeller fan
- C) Tube axial propeller fan
- D) Vane axial propeller fan

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

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

268. Why the supply air throw is decreased in window AC?

- A) Frost blocks air circulation
- B) Normal RPM of fan motor
- C) Clean air filter
- D) Refrigerant leaks

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

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

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

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

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

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

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

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

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

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

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

274. Which colour code indicates the earth wire in power supply cord?

- A) Black B) Green/yellow
C) Brown D) Red

275. Which extinguishes the fire on electrical equipment?

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

276. 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

277. Which parameter is checked if the air flow in supply duct is reduced in central AC plant?

- A) Blower motor ampere/speed B) Cooling water temperature
C) Condenser temperature D) Compressor discharge temperature

278. What is starving in extinguishing the fire?

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

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

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

280. How the power consumed by the motor varies with its speed in VFD?

- A) Cube of its speed B) No change with speed
C) Inversely proportional to its speed D) Square of its speed

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

282. What is the limitation for DOL starters in package AC?

- A) Up to 8 HP B) Up to 5 HP
C) Up to 10 HP D) Up to 3 HP

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

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

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

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

285. Which size service port is used in automobile air conditioners for HFC-134a refrigerant?

- A) 1/4" - 13 ACME B) 3/8" - 15 ACME
C) 5/16" - 14 ACME D) 1/2" - 16 ACME

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

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

287. What is the purpose of TEV in refrigeration cycle of package AC?

- A) Throttling refrigerant B) Condensing gas
C) Cooling the evaporator D) Flush out dry nitrogen

288. What is the storage capacity of oxygen cylinder?

- A) 6 m³ B) 5 m³
C) 3 m³ D) 7 m³

289. Which component removes the burrs and moisture from the circulating refrigerant in AC plant?

- A) Oil strainer B) HEPA filter
C) Air filter D) Filter drier

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

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

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

- A) Copper alloy B) Steel

C) Cast iron

D) Cast iron

292. Which refrigerant is inactive to ozone layer?

A) R 13

B) R 134a

C) R 12

D) R 22

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

A) Plastic

B) Zinc

C) Rubber

D) Copper

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

A) Closes the orifice of TEEV B) Blocks the orifice of AEV

C) Closes the orifice of capillary

D) Chokes the orifice of TEV

295. Which component defrosts in frost free refrigerator?

A) Bulb

B) Heater

C) Capillary tube

D) Thermostat

296. What is the evaporator surface temperature maintained in dehumidifier?

A) Above dry bulb temperature of air

B) Below dew point temperature of air

C) Below dry bulb temperature of air

D) Above dew point temperature of air

297. Which insulating material is used in duct work?

A) Glass wool

B) Wood

C) Rubber

D) Plastic

298. Which operation is carried out first in selector switch after installation of package AC?

A) Blower - low speed

B) Blower - high speed

C) Compressor 2

D) Compressor 1

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

A) Double end spanner

B) Screw spanner

C) Ratchet key/wrench

D) Cutting pliers

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

A) Generator and evaporator B) Generator and separator

C) Generator and absorber D) Generator and condenser

301. Which component is used in frost free refrigerator?

A) Liquid receiver

B) Timer switch

C) Oil separator

D) Plate coil evaporator

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

A) Rotary

B) Scroll

C) Centrifugal

D) Screw

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

A) To protect head

B) To protect hand

C) To protect eyes

D) To protect leg

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

A) SO₂

B) NH₃

C) CO₂

D) AIR

305. Which electronic component is the voltage regulator?

A) Diac

B) Zener diode

C) Transistor

D) Triac

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

A) Bench vice

B) Hand vice

C) Shear

D) Folding bar

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

A) Diode

B) Zener diode

C) Capacitor

D) SCR

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

A) Decrease the volume of air handling

B) Increase the cooling capacity

C) Decrease the cooling capacity

D) Increase the speed of fan motor

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

A) Evaporator fan

B) Over load protector

C) Thermostat sensor

D) Cabinet bulb

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

A) 01:03

B) 01:01

C) 01:02

D) 02:01

311. What is the unit of electrical energy?

A) Ampere

B) Volt

C) Kilo watt hour

D) Watt

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

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

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

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

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

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

315. What is the maximum TR capacity operated with Single phase AC supply?

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

316. What is measured by clamp tester during 'Test run' of package AC?

- A) Vacuum holding strength B) Rotation per minute
C) Running current D) Idle pressure

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

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

318. What is meant by hydronic system?

- A) Water distribution system in HVAC B) Humidity control system
C) Pressure control system D) Pressure equaliser

319. Which property is desirable for an ideal refrigerant?

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

320. How the total heat of air is represented in psychrometric chart?

- A) Enthalpy B) Sensible heat
C) Entropy D) Latent heat

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

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

322. How to neutralise the concentration of leaked ammonia from air

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

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

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

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

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

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

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

326. Which refrigerant is used in domestic refrigerator?

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

327. What is the unit of capacitance?

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

328. What is the direction of airflow delivered in a centrifugal blower?

- A) Perpendicular to the shaft B) Inclined throw of air horizontally
C) Parallel to the shaft D) Inclined throw of air vertically

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

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

330. What is the category of R 502 refrigerant?

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

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

- A) 110 Ampere B) 60 Ampere
C) 50 Ampere D) 100 Ampere

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

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

333. Which expansion device is used with VFD motors in multi split AC?

- A) Thermostatic B) Electronic
C) Automatic D) Hand operated

334. What is the purpose of rinsing the condenser tubes with water after descaling process in industrial AC plant?

- A) Remove scales B) Check block in tubes
C) Remove algae D) Remove acid particles

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

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

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

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

337. Which type of defrosting method is used in frost free refrigerator?

- A) Electric defrosting B) Hot water defrosting
C) Hot gas defrosting D) Manual defrosting

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

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

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

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

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

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

341. Which controls the speed of blower fan motor to vary air cooling or heating in car AC?

- A) Increase or decrease refrigerant flow B) Thermostat and return-air sensor
C) Ambient and cabinet temperature D) Selector switch and resistors

342. What is the preventive maintenance schedule of blower motor s speed and end play in package AC?

- A) Weekly B) Monthly
C) Daily D) Yearly

343. Which factors produce work?

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

344. 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

345. Which is the common terminal while Ohm meter reads AB = 10 Ohm, AC = 15 Ohm and BC = 25 Ohm if the motor terminals are A, B and C?

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

346. Which method prevents the foul smell of drainage entering the AHU?

- A) Strainer B) Exhaust fan
C) U - trap D) Louvers

347. Which branch of science deals with the properties of air?

- A) Psychrometry B) Geometry
C) Trigonometry D) Audiometry

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

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

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

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

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

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

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

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

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

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

353. What is the reason for air conditioner running

continuously but no cooling effect ?

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

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

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

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

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

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

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

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

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

358. Which refrigerant control is used in car AC?

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

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

- A) Reactive
- B) Non corrosive
- C) Erosive
- D) Galvanic

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

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

361. Why HCFC 22 refrigerant is recycled?

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

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

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

363. Which application uses the digital ICs?

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

364. Which differentiates the industrial AC compared to domestic AC system?

- A) Condensation of refrigerants
- B) Filters for air and refrigerants
- C) Blowers are used
- D) Separate plant room

365. Which parameter of power supply determines the speed of induction motor?

- A) Volume
- B) Current
- C) Volt
- D) Frequency

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

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

367. What is the composition of oxygen in atmospheric air?

- A) 0.21
- B) 0.11
- C) 0.31
- D) 0.41

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

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

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

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

370. Which is scheduled for yearly maintenance in package AC?

- A) Tighten the pump gland nut
- B) Wash the air filter
- C) Clean the cooling tower
- D) Tighten the blower belt

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

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

372. What is the reason for poor compression?

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

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

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

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

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

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

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

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

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

377. Which temperature is measured first in sling psychrometer after whirling?

- A) Dry bulb temperature of air
C) Wet bulb temperature of air
- B) Accurate temperature of air
D) Absolute temperature of air

378. What is the reason for high condensing pressure in air cooled condensers?

- A) Dirt on fins
C) High speed of fan motor
- B) Low ambient temperature
D) Faulty water pump

379. What is the effect of scale formation inside the tubes of chiller in industrial AC plant?

- A) Increase heat transfer
C) Reduce heat transfer
- B) Increase suction pressure
D) Decrease power consumption

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

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

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

- A) Open type reciprocating compressor
B) Hermetic reciprocating compressor

- C) Semi hermetic reciprocating compressor
D) Hermetic rotary compressor

382. Which is a positive displacement compressor?

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

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

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

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

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

385. Why frost accumulates in window AC evaporator?

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

386. What is the category of R 290 refrigerant?

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

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

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

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

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

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

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

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

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

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

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

392. Which refrigerant spreads the pungent odour if it leaks from ice plant system?

- A) NH₃
- B) SO₂
- C) CO₂
- D) H₂O

393. Where the relay coil is internally connected in voltage relay?

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

394. What is the expansion of ADP?

- A) Apparatus Dew Point
- B) Appliance Durability Promotion
- C) Advanced Detection Process
- D) Advanced Distributor Process

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

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

396. Which extinguishes the fire of flammable liquids?

- A) CO₂
- B) Air
- C) Oil
- D) Water

397. 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

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

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

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

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

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

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

401. How the brine freezing on cooling coil is prevented in ice plant?

- A) Reduce concentration
- B) Increase salt concentration
- C) Add water to brine
- D) Add glycol to brine

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

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

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

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

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

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

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

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

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

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

407. 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 fan motor
- C) Defective fan capacitor
- D) Defective blower

408. What is the function of magnetic clutch in an automobile air conditioner?

- A) Check Rpm of engine shaft
- B) Check Rpm of compressor shaft
- C) Start and stop the compressor electro magnetically
- D) Start and stop the evaporator blower

409. How many parameters are needed to locate all properties of moist air in psychrometric chart?

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

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

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

411. 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

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

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

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

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

414. 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) Relay activated
- D) Thermostat cuts off

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

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

416. Which thickness of PUF has the least thermal conductivity?

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

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

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

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

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

419. Which type of heat is considered for tube light s heat gain in AC space?

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

420. How to position the liquid line valve to start the pump

down operation in split AC?

- A) Opened
- B) Back seat crack
- C) Back seated
- D) Closed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

428. Which temperatures are marked on 100% RH curve?

- A) Wet-bulb and dew point
- B) Critical and condensing
- C) Evaporating and condensing
- D) Air and water

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

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

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

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

431. What is the equivalent of 760mm of Hg in torr?

- A) 7600 Torr
- B) 7.6 Torr
- C) 760 Torr
- D) 76 Torr

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- A) Liquid refrigerant
- B) Water

C) Suction vapour

D) Discharge vapour

440. Which motor has the least starting torque?

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

441. Which type of expansion device is used in flooded chillers?

- A) Multiple capillary
- B) Hand operated expansion valve
- C) Automatic expansion valve
- D) Float valve

442. Which valve is kept closed to check the function of low pressure switch?

- A) Suction valve
- B) Reed valve
- C) Discharge service valve
- D) Liquid line valve

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

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

444. What is the volume of air passed at the outlet of a rectangular duct whose area of cross section is 1m^2 and the air velocity by an anemometer is 10m/min ?

- A) 10 m^3
- B) 20 m^3
- C) 15 m^3
- D) 5 m^3

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

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

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

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

447. Which type of pump is used in AC plants for circulation of chilled water?

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

448. What is low side pressure range in HFC134a car AC at an ambient range of 32 Degree Centigrade to 35 Degree Centigrade?

- A) 2 kg/cm^2 - 4 kg/cm^2
- B) 3 kg/cm^2 - 5 kg/cm^2
- C) 4 kg/cm^2 - 6 kg/cm^2
- D) 1 kg/cm^2 - 3 kg/cm^2

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

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

450. What is the benefit of VRV system?

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

451. What is the cause of discolouration of oil in a compressor?

- A) Liquid refrigerant in oil
- B) Dirty drier filter
- C) Moisture in oil
- D) Low pressure of oil

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

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

453. What is the purpose of cooling tower in central AC plant?

- A) Maintain refrigerant flow
- B) Cool the condenser water
- C) Cool the chilled water
- D) Cool the liquid refrigerant

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

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

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

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

456. What is the use of anemometer?

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

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

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

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

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

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

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

- B) Evaporator, Compressor, Blower
- D) Air filter, Compressor, Condenser

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

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

461. Which flame is used for welding brass?

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

462. Why the glass wool insulation is avoided in ducts?

- A) High conductivity
- B) Allows vapour transmission
- C) Less strength
- D) Not resistant to water

463. Which device controls the moisture in AC room air?

- A) Humidistat
- B) Anemometer
- C) Hydrometer
- D) Hygrometer

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

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

465. Which material is used for making ICs?

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

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

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

467. What is the effect if the oil return from oil separator to the compressor is blocked?

- A) Compressor oil level falls down
- B) Compressor oil level increases
- C) Discharge pressure decreases
- D) Suction pressure rises

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

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

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

- A) 3 kg/cm²
- B) 0.5 kg/cm²
- C) (- 0.5 kg/cm²)
- D) 5 kg/cm²

470. 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

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

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

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

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

473. Which system maintains indoor air quality by adding fresh air and conditioned air to offset heating or cooling loads?

- A) Electrical control system
- B) Air distribution system
- C) Refrigeration system
- D) Refrigerant control system

474. Which psychometric process takes place if the air is passed through hygroscopic chemicals?

- A) Heating and dehumidification
- B) Heating and humidification
- C) Heating and cleaning of air
- D) Sensible heating of air

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

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

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

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

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

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

478. What is measured by Anemometer?

- A) Static pressure of air
- B) Total pressure of air
- C) Velocity of air
- D) Direction of air-flow

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

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

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

- A) Thermostat, Thermostatic expansion valve, Blower-switch
- B) Thermostat, Low-pressure control and high pressure control
- C) Thermostat, Electromagnetic clutch, on-off control
- D) LPC, HPC and Blower-switch

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

- A) 4 to 5.5 cfm
- B) 5 to 7.5 cfm
- C) 3 to 4.5 cfm
- D) 2 to 3.5 cfm

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

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

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

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

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

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

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

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

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

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

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

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

488. What is the unit of inductance?

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

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

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

490. Which type of cooling tower is used in large capacity chiller plants?

- A) Forced draft
- B) Natural draft
- C) Liquid cooling
- D) Induced draft

491. Which secondary refrigerant is used for human comfort in chiller plant AC?

- A) Ammonia
- B) Ethylene glycol
- C) Water
- D) Brine

492. What is the purpose of using humidistat in an industrial AC plant?

- A) Remove moisture from air
- B) Control humidity of air
- C) Add moisture to air
- D) Purifies air

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

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

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

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

495. What is ensured before starting a vacuum pump?

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

496. How numerical designations of inorganic refrigerants are assigned?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

504. Which materials are used to make mallets?

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

505. Which part of a central AC system cannot be repaired after pump down operation?

- A) Liquid receiver
- B) Condenser
- C) Expansion device
- D) Evaporator

506. Which valve is opened first after installing the package AC for test run?

- A) Solenoid valve
- B) Ball valve
- C) Service valve
- D) Globe valve

507. What is the advantage of variable speed pumping load control in chiller AC plant?

- A) Heating control is easy
C) Control valves are eliminated
- B) High cost of maintenance
D) Cooling coil can be eliminated

- C) Capacitor start and capacitor run
D) Induction start and induction run

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

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

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

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

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

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

511. Which instrument measures the humidity of air?

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

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

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

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

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

514. Which is the constant operating condition of TEV?

- A) Entropy at the condenser outlet
C) Super heat at suction line point
- B) Evaporator pressure at its inlet
D) Enthalpy at the evaporator outlet

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

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

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

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

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

- A) Permanent capacitor
B) Resistance start induction run

518. What is the boiling point of HFC-134a refrigerant at atmospheric pressure?

- A) -26.1 Degree Centigrade
C) -25.6 Degree Centigrade
- B) -24.5 Degree Centigrade
D) -23.6 Degree Centigrade

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

- A) Corrode the tubes
C) Block the strainer
- B) Reduce heat transfer
D) Increase algae growth

520. Which set of components are used in FCU?

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

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

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

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

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

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

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

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

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

525. Which causes the filter drier to become cold in chiller AC plant?

- A) Under charge
C) High condensing pressure
- B) Over charge
D) Partial blocking of filter drier

526. How many water drain lines are provided for each evaporator in a bus AC?

- A) Two
B) Four

C) One

D) Three

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

A) Safety valve

B) Relief valve

C) Reversing valve

D) Solenoid valve

528. What is the expansion of HVAC?

A) Heavy Vehicle Air Conditioning

B) Heating, Vibration, Auto Correction

C) Heating, Ventilation and Air Conditioning

D) Heating, Ventilation Automatic Control

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

A) Liquid line

B) Service line

C) Suction line

D) Discharge line

530. How electrons flow in a battery circuit?

A) Phase to earth

B) Phase to neutral

C) Negative polarity to positive polarity

D) Positive to negative polarity

531. Which position is safe for storing refrigerant cylinder?

A) Upside down

B) Upright

C) Horizontal

D) Inclined

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

A) Flush with water

B) Remove sludge

C) Add HCL to water

D) Add bleaching powder

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

A) 50% Tin 50% Bronze

B) 50% Zinc 50% lead

C) 50% Tin 50% Zinc

D) 50% Tin 50% lead

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

A) Ensure free flow of drain water

B) Block dust from outside

C) Allows air from outside

D) Prevent entry of foul smell

535. Which device is used to measure the density of brine solution?

A) Lactometer

B) Hydrometer

C) Thermometer

D) Hygrometer

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

A) Stopping the unit immediately

B) Raise the oil pressure more

C) Lower the head pressure in compressor

D) Make the unit not to trip

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

A) Compressor crankcase

B) Evaporator outlet

C) Accumulator

D) Top of condenser

538. Which instrument is used to measure atmospheric pressure?

A) Barometer

B) Manometer

C) Hydrometer

D) Hygrometer

539. Which material is used for making zener diode?

A) Platinum

B) Titanium

C) Silicon

D) Lead

540. What is the temperature of air at the supply grille in car AC system at an ambient 35 Degree Centigrade?

A) 12.4 Degree Centigrade

B) 10.2 Degree Centigrade

C) 11.3 Degree Centigrade

D) 13.5 Degree Centigrade

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

A) Bourdeon tube

B) Barometer

C) Nanometer

D) Pitot tube

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

A) Electrical energy

B) Kinetic energy

C) Wind energy

D) Potential energy

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

A) Latent heat of water-vapour only

B) Sensible heat and latent heat

C) Sensible heat and solar heat

D) Radiant heat and specific heat

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

A) Erodes the test kit

B) Corrodes the test kit

C) Releases poisonous gas

D) Explodes safely

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

A) Air filter

B) Dehydrator

C) Strainer

D) Filter drier

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

A) Condenser

B) Compressor

C) Drier

D) Evaporator

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

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

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

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

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

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

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

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

551. Which device is used to measure the static and total pressure of air in ducting systems?

- A) Compound gauge
- B) Pressure gauge
- C) Gauge manifold
- D) Pitot tube

552. What is the advantage of using indirect expansion chiller AC system?

- A) Quick cooling
- B) Less quantity of primary refrigerant
- C) Cooling tower is not needed
- D) Less quantity of secondary refrigerant

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

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

554. Where the sensor bulb of Thermostatic Expansion Valve is clamped?

- A) Inside the compressor
- B) Discharge Line
- C) Liquid Line
- D) Suction Line

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

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

556. What is smothering in fire extinguishing?

- A) Flashing with dry powder
- B) Use water to lower temperature

C) Pouring of CTC

D) Cutting off oxygen supply to fire

557. How the space between the false ceiling and the building main ceiling is used in handling of air in central AC plant?

- A) Fresh air duct
- B) Supply air duct
- C) Return air duct
- D) Exhaust duct

558. How much cut out point is set in high pressure control in package AC using R-22?

- A) 17 kg/cm²
- B) 12 kg/cm²
- C) 20 kg/cm²
- D) 15 kg/cm²

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

- A) Improve water quality
- B) Increase water pressure
- C) Install flow meter
- D) Minimise water flow

560. Which is circulated in VRV system for cooling cycle?

- A) Liquid refrigerant
- B) Water
- C) Cooled brine
- D) Cooled air

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

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

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

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

563. Which instrument indicates the correct floor level to install package unit?

- A) Vernier caliper
- B) Tee square
- C) Spirit level
- D) Screw gauge

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

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

565. Which group the acetylene gas belongs to?

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

566. Which component secures the hose with regulator

union in gas welding set?

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

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

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

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

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

569. Which type of filter drier is used with HFC 134a car AC?

- A) XH ? 1
- B) XH ? 3
- C) XH ? 7
- D) XH ? 5

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

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

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

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

572. Which file is used for filing wood?

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

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

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

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

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

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

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

576. Why the temperatures of inlet and outlet water in shell

and tube condenser are recorded in log sheet?

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

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

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

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

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

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

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

580. What is the remedy for loosened one belt in multidrive belts of blower unit?

- A) Align the driven pulley
- B) Remove the loosened one
- C) Align the drive pulley
- D) Replace the whole set of belts

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

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

582. 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

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

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

584. What is the unit of electric current?

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

585. Which device is installed in ducts to control air flow?

- A) Damper
- B) Grille

C) Diffuser

D) Register

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

A) 450 psig

B) 150 psig

C) 250 psig

D) 350 psig

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

A) Resistors, capacitors and inductors

B) Transformers and semiconductors

C) Semi conductors and transistors

D) Transistors, diodes and SCRs

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

A) Dirty air filter

B) Efficient compressor

C) Good insulation

D) Proper condensation

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

A) Correct the bends in fins

B) Flush out the condenser tubes

C) Remove the rust on the fins

D) Blow the dust from the fins

590. Why the capillary tube is preferred as an expansion device?

A) Periodical servicing is required

B) Inexpensive and has no moving parts

C) Expensive and more moving parts

D) No system pressure equalising

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

A) 1/5 HP

B) 1/16 HP

C) 1/20 HP

D) 1/10 HP

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

A) The piston moves down from the point of cylinder

B) The piston starts in cylinder at bottom

C) The piston moves up from the point of cylinder

D) The piston stops in cylinder at bottom

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

A) More pumping

B) Oil pumping

C) Poor pumping

D) No pumping

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

A) Remove the parts

B) Repair the OLP

C) Repair the heater element

D) Replace the OLP

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

A) If evaporator pressure exceeds safe limit

B) If condenser pressure exceeds safe limit

C) If there is continuous air velocity

D) If there is continuous rain outside

596. Where to assemble all the controls, microprocessor display board and indicating LED in package AC?

A) DOL

B) Body

C) Panel board

D) Blower compartment

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

A) Readjust the bimetal thermo

B) Repair the bimetal thermo

C) Reuse the bimetal thermo

D) Replace the bimetal thermo

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

A) 350 psig

B) 450 psig

C) 150 psig

D) 250 psig

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

A) Decrease the cooling capacity

B) Decrease the volume of air handling

C) Increase the speed of fan motor

D) Increase the cooling capacity

600. What is the atmospheric pressure at sea level?

A) 1.6 Kg/cm²

B) 1.5 Kg/cm²

C) 1.033

D) 1.3 Kg/cm²

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

A) Prevent condensation of nitrogen

B) Avoid condensation of refrigerant

C) Prevent condensation of dry air

D) Avoid condensation of water vapour

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

A) 730 mm

B) 740 mm

C) 760 mm

D) 750 mm

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

A) 1300 Degree F

B) 1200 Degree F

C) 1120 Degree F

D) 1250 Degree F

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

A) Discharge line

B) Capillary line

C) Liquid line

D) Suction line

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

A) Increase the belt tension

B) Increase the feathering

C) Decrease the belt vibration

D) Decrease the belt tension

606. What is the wet bulb temperature of air if dry bulb temperature is 35 Degree Centigrade and wet bulb depression is 4 Degree Centigrade?

A) 32 Degree Centigrade

B) 31 Degree Centigrade

C) 33 Degree Centigrade

D) 30 Degree Centigrade

607. Which material is used for making service valve?

A) Brass

B) Cast iron

C) Aluminium

D) Stainless steel

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

A) Regulation

B) Inversion

C) Convection

D) Rectification

609. Which T across water tubes indicates the shell and tube condenser for decalling process?

A) 2 Degree Centigrade

B) 3 Degree Centigrade

C) 4 Degree Centigrade

D) 5 Degree Centigrade

610. Where does the ozone layer exist in atmosphere?

A) Ionosphere

B) Mesosphere

C) Exosphere

D) Stratosphere

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

A) Thermal relay

B) Thermostat switch

C) Over load protector

D) Manual switch

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

A) Removal of the thermostat sensor

B) Check the drain tray of evaporator

C) Pressurize the system with refrigerant

D) Recharge refrigerant to the system

613. Which design data is used for indoor air heating in winter air conditioning?

A) 18Degree Centigrade +/- 1 Degree Centigrade and RH = 45%

B) 14Degree Centigrade +/- 1 Degree Centigrade and RH = 55%

C) 20Degree Centigrade +/- 1 Degree Centigrade and RH = 35%

D) 16Degree Centigrade +/- 1 Degree Centigrade and RH = 50%

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

A) Drain water control

B) Transmits signal to operate AC

C) Humidity setting

D) Pressure setting

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

A) Open ball bearing

B) Ball bearing

C) Thrust bearing

D) Sleeve bearing

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

A) Refrigerant leaked

B) Refrigerant is more

C) Condensation poor

D) Over charged oil

617. Which part of water pump becomes worn out fast?

A) Shaft sleeve

B) Water seal

C) Impeller

D) Bearing

618. Which factor determines the current setting during welding?

A) Types of joint

B) Length of electrode

C) Diameter of electrode

D) Position of weld

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

A) Register

B) Damper

C) Diffuser

D) Grille

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

A) Easily serviceable

B) Cost is high

C) Silent operation

D) Noise is more

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

A) 4 KVA

B) 5 KVA

C) 2 KVA

D) 3 KVA

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

A) Suction tube

B) Copper tube

C) Capillary tube

D) Discharge tube

623. Which material is used to clean oil and grease on the

floor?

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

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

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

625. Which safety control is manually reset after rectifying the faults in packages AC?

- A) OILP
- B) HP
- C) OLP
- D) LP

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

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

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

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

628. What is the advantage of inverter split AC?

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

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

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

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

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

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

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

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

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

633. What is the effect if the refrigeration system is started before chilled water pump?

- A) Water warms in chiller
- B) Excess of heat transfer
- C) No cooling
- D) Water freezes in chiller

634. Which is disconnected by centrifugal switch in RSIR motor?

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

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

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

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

- A) Specific heat ratio
- B) Specific volume per unit mass
- C) Specific gravity
- D) Sensible heat ratio

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

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

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

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

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

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

640. Which type of processor control is used for safety in package air conditioner?

- A) Electric
- B) Pneumatic
- C) Mechanic
- D) Electronic

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

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

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

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

- A) Using nitrogen
- B) Chemical cleaning
- C) Mechanical cleaning
- D) Pressurised air

643. What is the purpose of air filter?

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

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

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

644. Which type of load consumes more energy in an AC plant system?

- A) Air distribution
- B) Heating and cooling
- C) Air ventilation
- D) Water circulation

653. Which RAC system belongs to centralised air conditioning?

- A) Chiller plant AC
- B) Window AC
- C) Split AC
- D) Cassette AC

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

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

654. Which device maintains a constant DC output?

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

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

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

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

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

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

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

656. Which insulating material is poured as liquid?

- A) Cork Board
- B) Poly Urethane Foam (PUF)
- C) Glass Wool
- D) Wood Shave

648. What is the reason for no cooling in a frost free refrigerator?

- A) High watt Cabinet bulb
- B) Defective fan motor
- C) Open door switch
- D) Defective timer

657. Which control terminals are shorted before pump down operation in package AC?

- A) Thermostat switch
- B) Selector switch
- C) L.P cut-out switch
- D) H.P cut-out switch

649. Which material is used for making fins of condenser in a window air conditioner?

- A) Cast iron
- B) Copper
- C) Brass
- D) Aluminium

658. What is the equivalent of 1 mm of Hg in terms of microns?

- A) 1500
- B) 1000
- C) 2000
- D) 500

650. Which control opens the compressor motor circuit in the event of continuous overload?

- A) Thermostat
- B) Spring loaded relief valve
- C) Bimetal strip
- D) Fusible plug

659. Which type of AC system is operated by VRV system?

- A) Central plant AC
- B) Package AC
- C) Multizone split ACs
- D) Indirect ACs

651. What is the method of flushing the indoor coils?

660. What is the equivalent of one microfarad in farad?

- A) 10⁻⁹ farad
- B) 10⁻⁶ farad
- C) 10⁻³ farad
- D) 10⁻¹² farad