

Duration: 60 Mins

Total Marks: 250

ID: ITISKILL11617B

Student Name: _____	Roll No: _____
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1. Why the acetylene gas is avoided with copper pipe lines or fittings in oxy-acetylene welding set?

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

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

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

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

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

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

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

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

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

6. How electrons flow in a battery circuit?

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

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

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

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

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

9. What is the unit of electric current?

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

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

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

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

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

12. Which refrigerant blend is highly flammable?

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

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

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

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

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

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

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

16. Which device maintains a constant DC output?

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

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

- A) Semi sealed compressor B) Centrifugal compressor

- C) Open type compressor D) Hermetic compressor

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

27. What is the capacity of doing work?

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

28. Which is the hydrocarbon refrigerant?

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

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

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

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

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

31. What is the unit of capacitance?

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

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

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

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

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

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

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

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

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

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

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

37. Which position is safe for storing refrigerant cylinder?

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

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

- A) NH_3
- B) SO_2
- C) CO_2
- D) AIR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- A) $(R_1 + R_2)$ Ohms
- B) $(R_1 - R_2)$ Ohms
- C) $(R_1 \times R_2)$ Ohms
- D) (R_1 / R_2) Ohms

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

56. Which refrigerant is highly flammable?

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

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

- A) Condenser and evaporator
- C) Compressor and condenser

- B) Evaporator and suction line
- D) Compressor and evaporator

- A) 5 HP
- C) 20 HP

- B) 15 HP
- D) 10 HP

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

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

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

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

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

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

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

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

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

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

63. Which electronic component is the voltage regulator?

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

64. Which is the inorganic refrigerant?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

72. 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 open
- D) Running winding shorted

73. Which is the effective method for refrigerant recovery?

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

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

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

75. Which extinguishes the fire on electrical equipment?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- A) Brass
- B) Cast iron

C) Copper

D) Aluminium

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

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

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

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

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

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

90. 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

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

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

92. Which extinguishes the fire of flammable liquids?

- A) Water
- B) Oil
- C) CO_2
- D) Air

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

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

94. Which group the acetylene gas belongs to?

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

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

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

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

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

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

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

98. Which factor determines the current setting during welding?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

110. Which material is used for making ICs?

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

111. What is smothering in fire extinguishing?

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

112. What is the storage capacity of oxygen cylinder?

- A) 3 m³
- B) 6 m³
- C) 5 m³
- D) 7 m³

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

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

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

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

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

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

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

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

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

A) SO₂

B) O₂

C) O₃

D) N₂

118. Why HCFC 22 refrigerant is recycled?

A) Reduce ODP and GWP of environment

B) Make use of the same lubricant

C) Decrease the cost of production

D) Increase the efficiency of RAC systems

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

A) Mechanical efficiency is greater

B) Any refrigerant can be used

C) Cylinder lubrication is easier

D) No shaft seal is required

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

A) Shut off both valve quickly and dip in water

B) Shut off both valve, oxygen first and dip in water

C) Shut off acetylene first, oxygen next and dip in water

D) Shut off oxygen first and acetylene next

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

A) Water

B) CO₂

C) Dry powder

D) Foam

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

A) Capacitor start and capacitor run

B) Resistance start induction run

C) Induction start and induction run

D) Permanent capacitor

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

A) Starting winding

B) Running capacitor

C) Common winding

D) Running winding

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

A) Across 5 and 1

B) Across 5 and 2

C) Across 2 and 4

D) Across 1 and 2

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

A) Sulphur candles

B) Electric torch

C) Litmus paper

D) Electronic leak detector

126. 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

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

A) Cool the coils first by fan

B) Cool the compressor by fan

C) Minimise the noise of motors

D) Stop the high starting current by both motors

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

A) Thermostat not working

B) Oil level is medium

C) Oil level is low

D) Refrigerant charge normal

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

A) Resistance increases

B) Resistance becomes infinity

C) Resistance decreases

D) Resistance becomes zero

130. What is the name of electronic circuit?

A) Full wave rectifier

B) Quarter wave rectifier

C) Half wave rectifier

D) Bridge rectifier

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

A) Suction gas not cooled

B) Undercharged system

C) Suction super heat is less

D) Discharge plenum is at top

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

A) Two

B) Three

C) One

D) Four

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

A) Hand screen

B) Electrode holder

C) Screw clamp

D) Lugs for welding

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

A) Starting winding

B) Common winding

C) Running winding

D) Auxiliary winding

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

A) Evacuation

B) Pump down

C) Vacuumisation

D) Flushing

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

A) 60 Degree

B) 90 Degree

C) 30 Degree

D) 120 Degree

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

A) Common winding

B) Running winding

C) Starting winding

D) Auxiliary winding

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

A) Compressor and expansion device

B) Condenser and filter

C) Receiver and condenser

D) Evaporator and motor

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

A) Make good appearance

B) Easy to identify

C) Prevent corrosion on cylinder

D) Provide extra strength to cylinder

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

A) Air filter

B) Blower

C) Evaporator coil

D) Compressor

141. Which component defrosts in frost free refrigerator?

A) Capillary tube

B) Heater

C) Thermostat

D) Bulb

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

A) Two

B) One

C) Three

D) Four

143. Which motor has the least starting torque?

A) RSIR

B) CSR

C) CSIR

D) PSC

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

A) Conductance

B) Voltage

C) Resistance

D) Current

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

A) Pressure

B) Temperature

C) Humidity

D) Micron

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

A) B.T.U (British thermal unit)

B) K.Cal (Kilo Calorie)

C) KV (Kilo Volt)

D) K.W (Kilo Watt)

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

A) 12000

B) 6000

C) 24000

D) 18000

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

A) Vapour absorption

B) Water vapour

C) Vapour compression

D) Evacuating

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

A) Number of carbon atoms

B) Number of fluorine atoms

C) Number of chlorine atoms

D) Number of hydrogen atoms

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

A) Running capacitor

B) Starting capacitor

C) Boosting capacitor

D) Power factor correction capacitor

151. What is starving in extinguishing the fire?

A) Clearing the hazards

B) Adding fuel

C) Stop the supply of oxygen

D) Removal of fuel

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

A) Vertically down

B) Horizontally left

C) Bottom side

D) Vertically up

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

A) AC unit runs continuously

B) Relay malfunctions

C) Unit consumes less power

D) Increases super heat

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

A) Main winding

B) Running winding

C) Starting winding

D) Auxiliary winding

155. What is the unit of electrical energy?

A) Watt

B) Ampere

C) Volt

D) Kilo watt hour

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

A) Five speed

B) Triple speed

C) Single speed

D) Double speed

157. Which is the common terminal while Ohm meter reads AB = 10 Ohm, AC = 15 Ohm and BC = 25 Ohm if the motor

terminals are A, B and C?

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

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

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

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

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

160. 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

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

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

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

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

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

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

164. Which application uses the digital ICs?

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

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

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

166. Which refrigerant is used in vapour compression cycle?

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

167. Which component secures the hose with regulator

union in gas welding set?

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

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

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

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

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

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

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

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

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

172. 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) Capacitor start capacitor run motor
- D) Permanent split capacitor motor

173. Which material is used for making zener diode?

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

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

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

175. What is the category of R 290 refrigerant?

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

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

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

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

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

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

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

179. 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

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

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

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

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

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

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

183. Which refrigerant is inactive to ozone layer?

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

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

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

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

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

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

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

187. Which refrigerant is used in domestic refrigerator?

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

188. Which component is used in frost free refrigerator?

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

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

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

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

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

191. What is the rate of doing work?

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

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

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

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

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

194. Which thermodynamic process the temperature is kept constant?

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

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

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

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

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

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

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

198. How numerical designations of inorganic refrigerants are assigned?

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

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

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

200. Which is the green house gas?

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

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

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

202. Which insulating material is poured as liquid?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

211. Which instrument is used to measure atmospheric pressure?

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

212. 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

213. 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

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

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

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

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

216. Which file is used for filing wood?

- A) Rasp cut file
- B) Single cut file

C) Double cut file

D) Smooth file

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

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

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

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

219. What is the reason for poor compression?

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

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

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

221. Which power supply has the fixed polarity?

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

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

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

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

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

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

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

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

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

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

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

227. Which instrument is used for measuring heat?

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

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

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

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

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

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

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

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

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

232. Which flame is used for welding brass?

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

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

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

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

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

235. What is the atmospheric pressure at sea level?

- A) 1.3 Kg/cm²
B) 1.033 kg/cm²
C) 1.6 Kg/cm²
D) 1.5 Kg/cm²

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

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

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

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

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

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

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

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

240. Which domestic system uses automatic defrost?

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

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

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

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

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

243. Which type of insulating material is used for making ice

box to cool beverages?

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

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

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

245. Which factors produce work?

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

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

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

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

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

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

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

249. Which is a positive displacement compressor?

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

250. How the capacity of refrigerator is expressed?

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