

Duration: 60 Mins**Total Marks: 100****Q.ID: ITISKILL62834P**

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

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

Answer: A) 1/16 HP

2. 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

Answer: A) Tray on top of the compressor

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

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

Answer: C) Number of fluorine atoms

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

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

Answer: B) 3000

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

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

Answer: D) Finned tube

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

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

Answer: D) Increases ODP and GWP

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

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

Answer: D) Slip

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

- A) 1.00 HP B) 0.95 HP

- C) 0.75 HP D) 0.50 HP

Answer: C) 0.75 HP

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

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

Answer: C) OLP

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

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

Answer: B) Painting brush

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

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

Answer: D) Disconnect the starting capacitor

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

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

Answer: B) Frost accumulated in the evaporator

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

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

Answer: C) End ring

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

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

Answer: C) Up to 80%

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

A) Refrigerant

B) Nitrogen

C) Oxygen

D) Air

Answer: B) Nitrogen

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

A) Defective fan capacitor

B) Defective blower

C) Defective fan motor

D) Defective OLP

Answer: D) Defective OLP

17. Which motor has the least starting torque?

A) CSR

B) CSIR

C) PSC

D) RSIR

Answer: D) RSIR

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

A) SO₂

B) CO₂

C) NH₃

D) AIR

Answer: B) CO₂

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

A) Condenser

B) Evaporator

C) Compressor

D) Capillary tube

Answer: D) Capillary tube

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

A) Starting winding

B) Running winding

C) Auxiliary winding

D) Common winding

Answer: B) Running winding

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

A) Natural air circulation

B) Forced air circulation

C) High temperature setting

D) Low temperature setting

Answer: B) Forced air circulation

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

A) Specific heat

B) Total heat

C) Latent heat

D) Sensible heat

Answer: C) Latent heat

23. What is the equivalent absolute scale for centigrade?

A) Kelvin

B) Celsius

C) Fahrenheit

D) Rankine

Answer: A) Kelvin

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

A) Defrost heater

B) Bimetal thermo

C) Timer

D) Relay

Answer: C) Timer

25. Which position is safe for storing refrigerant cylinder?

A) Inclined

B) Upside down

C) Horizontal

D) Upright

Answer: D) Upright

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

A) Open type

B) Swash plate

C) Belt drive

D) Sealed type

Answer: D) Sealed type

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

A) Discharge valve

B) Service valve

C) Suction valve

D) Liquid line valve

Answer: C) Suction valve

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

A) Two

B) Three

C) Four

D) One

Answer: A) Two

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

A) Shaded pole rotor

B) Squirrel cage rotor

C) Solid rotor

D) Laminated rotor

Answer: B) Squirrel cage rotor

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

A) Dehydrator

B) Filter drier

C) Strainer

D) Air filter

Answer: D) Air filter

31. Which domestic system uses automatic defrost?

A) Frost free refrigerator

B) Split air - conditioner

C) Window air - conditioner

D) Conventional refrigerator

Answer: A) Frost free refrigerator

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

A) Vapour

B) Liquid

C) Solid

D) Semi solid

Answer: A) Vapour

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

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

Answer: D) Vapour compression

34. Which refrigerant is inactive to ozone layer?

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

Answer: D) R 134a

35. Which component is used in frost free refrigerator?

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

Answer: B) Timer switch

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

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

Answer: C) Dust accumulated in the condenser fins

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

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

Answer: D) Run capacitor

38. Which property is desirable for an ideal refrigerant?

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

Answer: A) High latent heat value

39. Where does the ozone layer exist in atmosphere?

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

Answer: A) Stratosphere

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

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

Answer: A) No shaft seal is required

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

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

Answer: D) Last coil of evaporator

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

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

Answer: D) Below its critical temperature

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

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

Answer: C) 100 Degree Centigrade

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

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

Answer: A) K.Cal (Kilo Calorie)

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

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

Answer: A) Identifying the refrigerant's names

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

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

Answer: A) Starting capacitor

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

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

Answer: C) Primary and secondary

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

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

Answer: D) Relay

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

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

Answer: A) Vapour absorption refrigeration

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

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

Answer: B) Oil level is low

51. 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

Answer: A) Adding resistance to rotor winding

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

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

Answer: D) No cooling

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

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

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

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

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

Answer: A) Starting

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

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

Answer: D) 1120 Degree F

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

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

Answer: D) Increase the pressure and temperature

57. Which instrument is used to measure atmospheric pressure?

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

Answer: D) Barometer

58. What is the desirable property of POE lubricant?

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

Answer: C) Miscible with HFCs

59. 1 Which control device is used to maintain the room air temperature?

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

Answer: A) Thermostat

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

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

Answer: D) Evaporator fan

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

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

Answer: D) Thermocole

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

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

Answer: A) -273 Degree Centigrade

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

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

Answer: D) Across 1 and 2

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

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

Answer: A) Plastic

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

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

Answer: A) Aluminium

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

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

Answer: B) HP Vapour

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

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

Answer: B) Prevent Oxidation

68. Which factors produce work?

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

Answer: A) Force and distance

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

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

Answer: B) Fins and tube

70. What is the revolving part of induction motor?

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

Answer: A) Rotor

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

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

Answer: A) The piston moves up from the point of cylinder

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

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

Answer: D) Orbital

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

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

Answer: C) Improve the power factor

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

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

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

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

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

Answer: A) Compressor is not running

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

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

Answer: D) Easy to identify

77. 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

Answer: D) Chlorofluoro carbon in air

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

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

Answer: B) Ohm meter

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

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

Answer: D) Potential energy

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

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

Answer: B) 10 Degree Centigrade

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

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

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

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

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

Answer: C) Defrost timer

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

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

Answer: C) Starting winding

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

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

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

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

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

Answer: D) Single phase double end shaft motor

86. Which component defrosts in frost free refrigerator?

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

Answer: D) Heater

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

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

Answer: A) ASHRAE

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

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

Answer: B) Defective OLP

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

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

Answer: D) Zeotropes

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

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

Answer: A) Dry ice

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

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

Answer: C) 6000

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

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

Answer: B) Silver brazing

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

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

Answer: D) Change any two phase

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

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

Answer: A) Compressor and expansion device

95. Which thermodynamic process the temperature is kept constant?

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

Answer: B) Isothermal process

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

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

Answer: C) Flow direction of refrigerant

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

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

Answer: B) Suction vapour

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

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

Answer: B) Piston pin

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

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

Answer: D) Increase global warming potential

100. What is the reason for poor compression?

A) Scratches on the piston surface B) Good lubrication on the moving parts

C) Lapped valve plate and reed seat D) Less clearance volume

Answer: A) Scratches on the piston surface
