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Answer Key

Duration: 60 Mins

Total Marks: 94

Q.ID: ITISKILL7464E5

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

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

Answer: A) Hermetic rotary compressor

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

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

Answer: C) Running

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

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

Answer: C) Starting winding

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

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

Answer: C) Improve the power factor

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

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

Answer: D) End ring

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

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

Answer: B) Orbital

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

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

Answer: A) Change any two phase

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

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

Answer: D) Generator and absorber

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

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

Answer: C) Vapour

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

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

Answer: B) Capillary tube

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

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

Answer: A) Silent operation

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

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

Answer: B) Oil level is low

13. 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

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

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

Answer: C) Starting

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

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

Answer: A) Starting capacitor

16. Which factors produce work?

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

Answer: D) Force and distance

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

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

Answer: A) Last coil of evaporator

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

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

Answer: C) Plastic

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

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

Answer: B) Compressor and expansion device

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

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

Answer: B) Between fixed and orbiting scrolls

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

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

Answer: B) Winding short

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

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

Answer: C) No cooling

23. Which component defrosts in frost free refrigerator?

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

Answer: C) Heater

24. Which instrument is used to measure atmospheric pressure?

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

Answer: D) Barometer

25. Which is a positive displacement compressor?

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

Answer: C) Scroll compressor

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

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

Answer: A) Vapour compression

27. 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) 140 p.s.i.a
C) 130 p.s.i.a D) 150 p.s.i.a

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

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

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

Answer: A) Finned tube

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

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

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

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

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

Answer: D) Poor cooling

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

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

Answer: D) POE

32. What is the revolving part of induction motor?

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

Answer: A) Rotor

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

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

Answer: C) Increase starting torque

34. Which component is used in frost free refrigerator?

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

Answer: C) Timer switch

35. What is the capacity of doing work?

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

Answer: C) Energy

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

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

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

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

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

Answer: B) Condenser and evaporator

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

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

Answer: C) Discharge plenum is at top

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

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

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

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

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

Answer: D) Relay

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

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

Answer: A) Temperature

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

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

Answer: B) Cut out

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

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

Answer: C) -273 Degree Centigrade

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

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

Answer: B) Prevents liquid flood back to compressor

45. Which motor has the least starting torque?

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

Answer: A) RSIR

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

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

Answer: A) Painting brush

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

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

Answer: D) Compressor is not running

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

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

Answer: D) Timer

49. What is the atmospheric pressure at sea level?

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

Answer: D) 1.033 kg/cm²

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

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

Answer: D) 760 mm

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

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

Answer: C) Adding resistance to rotor winding

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

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

Answer: B) 10 Degree Centigrade

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

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

Answer: C) K.Cal (Kilo Calorie)

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

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

Answer: C) Piston pin

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

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

Answer: C) Squirrel cage rotor

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

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

Answer: C) Suction vapour

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

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

Answer: C) OLP

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

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

Answer: A) Bimetal thermo

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

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

Answer: D) Below its critical temperature

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

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

Answer: A) Vertically up

61. What is the rate of doing work?

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

Answer: B) Power

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

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

Answer: C) No pumping

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

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

Answer: B) HP Vapour

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

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

Answer: B) 100 Degree Centigrade

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

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

Answer: D) Uneven floor level

66. What is the reason for poor compression?

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

Answer: B) Scratches on the piston surface

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

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

Answer: C) Forced air circulation

68. What is the equivalent absolute scale for centigrade?

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

Answer: D) Kelvin

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

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

Answer: C) Starting winding

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

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

Answer: A) Silver brazing

71. Which motor has the least starting torque?

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

Answer: D) RSIR

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

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

Answer: B) Door gasket

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

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

Answer: D) Nitrogen

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

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

Answer: C) Prevent Oxidation

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

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

Answer: A) Reduce noise of compressor

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

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

Answer: A) Potential energy

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

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

Answer: D) 1120 Degree F

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

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

Answer: C) Defrost timer

79. Which domestic system uses automatic defrost?

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

Answer: A) Frost free refrigerator

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

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

Answer: D) Boyles law

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

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

Answer: C) Increase the pressure and temperature

82. How the capacity of refrigerator is expressed?

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

Answer: A) Litres

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

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

Answer: D) Leakage of refrigerant

84. Which thermodynamic process the temperature is kept constant?

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

Answer: C) Isothermal process

85. Which instrument is used for measuring heat?

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

Answer: D) Calorimeter

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

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

Answer: A) Hermetic compressor

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

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

Answer: B) Tray on top of the compressor

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

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

Answer: A) No shaft seal is required

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

- A) Suction valve B) Liquid line valve

C) Service valve

D) Discharge valve

Answer: A) Suction valve

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

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

Answer: D) Evaporator fan

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

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

Answer: C) Vapour absorption refrigeration

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

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

Answer: A) Harmful to the compressor and motor

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

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

Answer: C) - 15 Degree Centigrade

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

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

Answer: A) Slip