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Score: 60/100 (60.00%)

Code: 3818

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

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

2. Which instrument is used to measure atmospheric pressure?

- A) Hygrometer B) Hydrometer
 C) Manometer **D) Barometer (Correct)**

3. 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) (Incorrect)

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

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

5. 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 moves down from the point of cylinder D) The piston starts in cylinder at top (Incorrect)

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

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

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

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

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

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

9. What is the physical state of ammonia at condenser inlet in

vapour absorption system?

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

10. Which thermodynamic process the temperature is kept constant?

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

11. What is the equivalent absolute scale for centigrade?

- A) Kelvin (Correct)** B) Celsius
 C) Rankine D) Fahrenheit

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

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

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

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

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

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

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

- A) Thermoheater **B) Defrost timer**
C) Relay (Incorrect) D) OLP

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

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

17. 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) 150 p.s.i.a (Correct)
D) 160 p.s.i.a

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

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

19. Which factors produce work?

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

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

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

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

- A) Piston pin (Correct)**
B) Piston bolt
C) Piston rings
D) Piston sleeve

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

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

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

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

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

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

25. Which motor has the least starting torque?

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

26. What is the revolving part of induction motor?

- A) Stator
B) **Rotor (Correct)**
C) Relay
D) Winding

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

39. What is the reason for poor compression?

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

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

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

41. Which component defrosts in frost free refrigerator?

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

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

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

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

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

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

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

45. Which domestic system uses automatic defrost?

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

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

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

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

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

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

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

49. Which component is used in frost free refrigerator?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

61. Which property is desirable for an ideal refrigerant?

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

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

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

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

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

64. What is the desirable property of POE lubricant?

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

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

- A) ASHRAE (Correct)**
C) DW142
B) ISHRAE
D) ISO

66. Which is the green house gas?

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

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

- A) SO₂
C) NH₃
B) CO₂ (Correct)
D) AIR

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

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

69. Where does the ozone layer exist in atmosphere?

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

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

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

71. Which refrigerant is inactive to ozone layer?

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

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

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

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

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

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

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

75. Which position is safe for storing refrigerant cylinder?

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

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

A) Easy to identify

C) Prevent corrosion on cylinder

B) Make good appearance (Incorrect)

D) Provide extra strength to cylinder

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

A) Tar felt

C) Fibre glass

B) Glass wool (Incorrect)

D) Thermocole

78. 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 (Incorrect)

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

A) Increases ODP and GWP

C) Decreases TEWI

B) Decreases GWP and ODP (Incorrect)

D) Inactive to TEWI

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

A) Increase global warming potential (Correct)

C) Decrease green house effect

B) Increase ozone depleting potential

D) Improve water pollution

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

A) Belt drive

C) Sealed type (Correct)

B) Open type

D) Swash plate

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

A) Fins and tube (Correct)

C) Plate and coil

B) Plate and tube

D) Bare tube

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

A) 3000 (Correct)

C) 5000

B) 4000

D) 6000

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

A) Brass

C) Cast iron

B) Copper

D) Aluminium (Correct)

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

A) 6000 (Correct)

C) 18000

B) 12000

D) 24000

86. 1 Which control device is used to maintain the room air temperature?

A) OLP

C) Thermostat (Correct)

B) Relay

D) Selector switch

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

A) Strainer

C) Filter drier

B) Air filter (Correct)

D) Dehydrator

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

A) 1/5 HP

C) 1/16 HP

B) 1/10 HP (Incorrect)

D) 1/20 HP

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

A) Fan capacitor

C) Start capacitor

B) Run capacitor (Correct)

D) No capacitor is connected

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

A) Disconnect the starting capacitor

C) Disconnect the fan capacitor

B) Disconnect the running capacitor (Incorrect)

D) Disconnect the winding

91. 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

C) Minimise the noise of motors

B) Cool the compressor by fan

D) Stop the high starting current by both motors (Correct)

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

A) Three phase single shaft motor

C) Three phase double end shaft motor

B) Single phase single shaft motor (Incorrect)

D) Single phase double end shaft motor

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

A) Across 1 and 5 (Incorrect)

C) Across 1 and 2

B) Across 2 and 5

D) Across 2 and 4

94. Which is indicated by the arrow mark on filter drier

component?

A) Flow direction of air

C) Flow direction of refrigerant

B) Position of capillary tube

D) Arrangement of desiccant and filter (Incorrect)

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

A) 0.50 HP

C) 0.95 HP

B) 0.75 HP

D) 1.00 HP (Incorrect)

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

A) Common winding

C) Starting winding

B) Running winding (Correct)

D) Auxiliary winding

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

A) Defective fresh air damper

C) Defective fan motor

B) Defective oscillation motor (Incorrect)

D) Defective OLP

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

A) Water splashes condenser

C) Fan motor working in good condition

B) More air flows into the condenser

D) Dust accumulated in the condenser fins (Correct)

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

A) Defective fan capacitor

C) Defective blower (Incorrect)

B) Defective fan motor

D) Defective OLP

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

A) No frost in the evaporator

C) Dust accumulated in the condenser

B) Frost accumulated in the evaporator (Correct)

D) No dust accumulated in the evaporator