

Student Name: _____ Roll No: _____

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

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

2. What is the reason for poor compression?

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

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

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

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

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

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

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

6. Where the dehydrator is installed in a refrigeration system?

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

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

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

8. 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

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

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

10. What is the equivalent of one microfarad in farad?

- A) 10⁻³ farad B) 10⁻⁶ farad
C) 10⁻¹² farad D) 10⁻⁹ farad

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

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

12. Which thermodynamic process the temperature is kept constant?

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

13. Which type of processor control is used for safety in package air conditioner?

- A) Pneumatic B) Electronic
C) Electric D) Mechanic

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

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

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

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

16. 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

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

- A) Resistance decreases B) Resistance becomes zero
C) Resistance becomes infinity D) Resistance increases

18. 1 Which control device is used to maintain the room air temperature?

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

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

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

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

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

21. Which instrument measures the humidity of air?

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

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

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

23. 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) Exhaust duct
C) Return air duct D) Supply air duct

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

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

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

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

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

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

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

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

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

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

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

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

30. Which gas is used to flush out the coils of air cooled condenser?

- A) Oxygen B) Dry nitrogen
C) kaksr D) Pure dry air

31. 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

32. Which is a positive displacement compressor?

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

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

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

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

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

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

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

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

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

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

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

38. Which refrigerant blend is highly flammable?

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

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

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

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

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

41. What is the effect if the refrigeration system is started before chilled water pump?

- A) Excess of heat transfer B) No cooling
C) Water freezes in chillier D) Water warms in chillier

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

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

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

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

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

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

45. What is the category of R 290 refrigerant?

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

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

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

47. Which set of components are used in FCU?

- A) Compressor, fan, condenser B) Air filter, cooling coil, blower motor
C) Air filter, blower, condenser D) Cooling coil, condenser, fan motor

48. Which causes the filter drier to become cold in chiller AC plant?

- A) Under charge B) Partial blocking of filter drier
C) Over charge D) High condensing pressure

49. What is the method of converting AC to DC power supply with two diodes and a step down transformer?

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

50. How pressure drop is achieved in capillary tube of refrigeration cycle?

- A) The friction between piston and cylinder B) The friction between belt and pulley
C) The friction between refrigerant and oil D) The friction between refrigerant and tube

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

- A) 000.1 mm B) 0.01 mm
C) 0.001 mm D) 0.1 mm

52. Which valve is used to release the non condensable gases from AC plant?

- A) Solenoid valve B) Service valve
C) Check valve D) Purge valve

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

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

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

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

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

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

56. Which is circulated in VRV system for cooling cycle?

- A) Water B) Cooled air
C) Cooled brine D) Liquid refrigerant

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

- A) N₂
- B) O₂
- C) O₃
- D) SO₂

58. How much cut out point is set in high pressure control in package AC using R-22?

- A) 20 kg/cm²
- B) 17 kg/cm²
- C) 12 kg/cm²
- D) 15 kg/cm²

59. 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 dynamic and total pressures
- C) Sum of static and total pressures
- D) Difference in dynamic and total pressures

60. Why the temperatures of inlet and outlet water in shell and tube condenser are recorded in log sheet?

- A) Judge quality of water
- B) Checking the hardness of water
- C) Study about the plant
- D) Fix descaling time for condenser

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

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

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

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

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

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

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

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

65. Which application uses the digital ICs?

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

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

- A) Higher cost
- B) Silent operation

- C) Needs more space
- D) Noisy operation

67. Which part of a central AC system cannot be repaired after pump down operation?

- A) Liquid receiver
- B) Expansion device
- C) Evaporator
- D) Condenser

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

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

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

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

70. What is the ozone depleting potential of R 134a Refrigerant?

- A) 3
- B) 0
- C) 1
- D) 2

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

- A) Activated carbon
- B) Silica gel
- C) Activated alumina
- D) Molecular sieve type

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

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

73. Which extinguishes the fire on electrical equipment?

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

74. What is the preventive maintenance of cooling tower sump?

- A) Flush with water
- B) Add HCL to water
- C) Add bleaching powder
- D) Remove sludge

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

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

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

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

77. What is the use of anemometer?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

87. What is the remedy for no lubrication even if the sight

glass shows proper oil level?

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

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

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

89. What is the revolving part of induction motor?

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

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

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

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

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

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

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

93. What is the cause of high condensing pressure in water cooled condenser?

- A) Damage condenser fan B) Defective cooling water pump
C) Lack of lubrication D) Low load on evaporator

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

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

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

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

96. 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

C) 15 meters

D) 20 meters

97. 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) 30 Degree Centigrade
C) 33 Degree Centigrade D) 31 Degree Centigrade

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

- A) 25 meters B) 12 meters

99. What is the equivalent of 1 mm of Hg in terms of microns?

- A) 2000 B) 1500
C) 1000 D) 500

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

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