

212/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Dry ice is :
(A) Ammonia (B) H₂O
(C) Carbon Mono oxide (D) CO₂
2. Which type condensers are commonly used in water coolers?
(A) Natural Draft (B) Forced Draft
(C) Water cooled (D) Coolant Circulation
3. The weight of HC charged to the system for drop in conversion from CFC 12 to HC is :
(A) 140% (B) 100%
(C) 40% (D) 60%
4. The ball bearings of electrical motor are lubricated by :
(A) Grease (B) Air
(C) Oil (D) Water
5. The component which controls the flow of refrigerant to the evaporator is called :
(A) Solenoid valve (B) Thermostat
(C) Expansion valve (D) Driers
6. Dehydrator is installed in the :
(A) Discharge line (B) Suction line
(C) Liquid line (D) Capillary line
7. The idea of Pulsetube originated from Gifford is in :
(A) 1968 (B) 1947
(C) 1961 (D) 1930

8. "ASHRAE" is :
- (A) American Society of Heating Refrigerating and Air Conditioning Engineers
 - (B) Association of States of Heating Refrigerating and Air Conditioning Engineers
 - (C) American Society Having Refrigerating and Air Conditioning Engineers
 - (D) American Society of Harmful Refrigeration and Air Conditioning in Earth
9. Refrigeration is the process of _____ heat.
- (A) Removing
 - (B) Adding
 - (C) Lowering
 - (D) Transferring
10. Auto defrost operated by :
- (A) Evaporator fan
 - (B) Thermostat
 - (C) Timer switch
 - (D) Heating element
11. Rectifiers are used to convert :
- (A) Voltage of current
 - (B) Voltage of velocity
 - (C) AC to DC
 - (D) DC to AC
12. Normal drinking water temperature is :
- (A) 10°C
 - (B) 15°C
 - (C) 20°C
 - (D) 25°C
13. Brine Solution is :
- (A) Maintains the temperature
 - (B) Made of Diesel
 - (C) Highly flammable
 - (D) Secondary refrigerant
14. If the fan blades are cracked :
- (A) Straighten the blade
 - (B) Change the blade
 - (C) Braze the cracking of blade
 - (D) Stick the cracked space with adhesive
15. Poor compression due to :
- (A) Gas storage
 - (B) Reeds Leak
 - (C) Poor condensation
 - (D) Compressors

16. The chemical formula of water is :
- (A) N_2 (B) O_2
(C) H_2O (D) CO_2
17. Environment friendly refrigerant R134a is used in new generation domestic refrigerators. Its chemical formula is :
- (A) $CHClF_2$ (B) $C_2Cl_3F_3$
(C) $C_2Cl_2F_4$ (D) $C_2H_2F_4$
18. Actually the compressor has two jobs. One is compressing the refrigerant vapours and the other is :
- (A) Equalise pressure in the system
(B) Circulate the refrigerant in the system
(C) Provide refrigerating effect
(D) Keep the foods fresh
19. Refrigerator door is pulled close by :
- (A) Magnetic gasket (B) Gravitational force
(C) Spring tension (D) Slanting level
20. The five micron filter is named as :
- (A) Catch all filter (B) Rough filter
(C) Bag filter (D) Fine filter
21. The component which releases the heat from the refrigerant is :
- (A) Condenser (B) Evaporator
(C) Expansion device (D) Thermostat
22. C.A.V stands for :
- (A) Central Air Volume (B) Constant Air Volume
(C) Creative Air Volume (D) Constant Air Velocity
23. R.717 stands for :
- (A) Ammonia (B) Freon
(C) Sulphur Di oxide (D) Sodium Chloride

24. Zeotropic mixtures are coming under _____ series number.
(A) 500 (B) 400
(C) 300 (D) 600
25. The clearance between cylinder wall and piston wall is kept :
(A) .0003" (B) .003"
(C) .0001" (D) .001"
26. Cast iron is produced from which furnace :
(A) Blast furnace (B) Cupola furnace
(C) Puddling furnace (D) Electronic arc furnace
27. The unit of resistance is :
(A) Ampere (B) Ohm
(C) Volt (D) Watt
28. Efficiency is always :
(A) More than one (B) Equal to one
(C) Less than one (D) None of the above
29. The reason for poor condensation is :
(A) No lubrication (B) Poor brazing
(C) Capillary check (D) Fins blocked
30. Ideal pressure of F12 is :
(A) 2kg/cm² (B) 3.5kg/cm²
(C) 6kg/cm² (D) 7.5kg/cm²
31. The metal wire which give good earth contact is :
(A) Copper (B) Glass
(C) Brass (D) Aluminium
32. Gasket prevents :
(A) High temperature (B) Low pressure
(C) Water flow (D) Leaks in joints

33. The evaporator which is more efficient is :
- (A) Dry evaporator (B) Flooded evaporator
(C) Evaporator condenser (D) Heat exchanger
34. Thermostat element is charged with :
- (A) F12 (B) Alcohol
(C) Volatile liquid (D) Alcohol with water
35. The electrical fire spreading can be protected by :
- (A) Earth connection (B) Bucket of water
(C) Sand (D) Fire extinguisher
36. An air sample without water vapour is called :
- (A) Moist air (B) Dry air
(C) Saturated air (D) Cooled air
37. A thermostat controls :
- (A) The voltage (B) The air flow
(C) The Pressure in the system (D) The temperature in the system
38. The valve seating should be checked for leak by :
- (A) Water (B) Kerosene
(C) Air (D) Spirit
39. The size of the gasket is based on :
- (A) Length (B) Width
(C) Thickness (D) Roughness
40. 1 Joule = _____
- (A) 10^7 ergs (B) 10^9 ergs
(C) 10^{10} ergs (D) 10^6 ergs
41. The maximum amount of vapours having no unvapourised liquid is :
- (A) Super Heated vapours (B) Saturated vapours
(C) Unsaturated vapours (D) Perfect gas

42. The given formula $v = \frac{\pi \times D^2 \times \text{SNR}}{4}$ cubicinch/min is used for finding :
- (A) Volumetric efficiency (B) Piston Displacement
(C) R.P.M (D) Range of cooling tower
43. The refrigerant used for ice plant is :
- (A) F12 (B) F22
(C) Ammonia (D) Waters
44. Which device protect our circuits from overflowing current?
- (A) Switch (B) Wire
(C) Clamp (D) Fuse
45. Relay is an _____ Operated switch
- (A) Pressure (B) Electrical
(C) Temperature (D) Air flow
46. Cold air moves in the direction of :
- (A) Upward (B) Downward
(C) Horizontal (D) All of the above
47. Brine Solution density is checked by :
- (A) Tacometer (B) Hydrometer
(C) Anemometer (D) Thermometer
48. If the Solenoid valve has mechanical problem :
- (A) Service the plunger (B) Exchange the coil
(C) Replace the top cover (D) Change the electrical connection
49. The Piston is made of :
- (A) Mild steel (B) Brass
(C) Copper (D) Cast iron

50. Evaporative condensers cooling medium is :
- (A) Combination of air and water (B) Refrigerant vapour
(C) Natural Air (D) Chilled water
51. The effect of cooling produced by a good installed unit will be :
- (A) Maximum (B) Minimum
(C) Intermittent (D) Poor
52. In a refrigeration system frosting starts from capillary due to :
- (A) Oil in evaporator coil (B) Compressor has poor pumping
(C) Gas quantity is less (D) Drier filter partially blocked
53. Starting capacitor is employed to increase :
- (A) Life of winding (B) Motor torque and power factor
(C) Running performance (D) Life of motor
54. HFC should not vent to atmosphere because :
- (A) It is flammable in atmospheric temperature
(B) It has high G.W.P
(C) It is highly toxic
(D) It is very costly
55. The valve lifting capacity control lifts the :
- (A) Solenoid valve (B) Service valve
(C) Suction valve (D) Piston
56. At which point the °C scale and °F scale will be same
- (A) 40° (B) 60°
(C) -40° (D) 0°
57. The chemical formula of R12 is :
- (A) CCl_2F_2 (B) $\text{C}_2\text{Cl}_2\text{F}_2$
(C) C_2ClF_2 (D) $\text{C}_2\text{Cl}_2\text{F}$

58. Which one of the following is the cause of high head pressure?
- (A) Air is the system (B) Oil is the evaporator
(C) Shortage of refrigerant (D) Moisture is the system
59. Which one of the following is not a refrigerant control device?
- (A) Thermostatic expansion valve (B) Capillary tube
(C) Thermostat switch (D) Low slide float valve
60. In a reciprocating compressor suction and discharge reeds are made of :
- (A) Carbon steel (B) Stainless steel
(C) Cast iron (D) Spring steel
61. Name the type of compressor used in domestic refrigerator :
- (A) Screw compressor (B) Sealed type scroll
(C) Sealed type rotary (D) Sealed type reciprocating
62. Liquid refrigerant collects in the lower coil of the condenser and flows through :
- (A) Evaporator coil (B) Compressor suction
(C) Heat exchanger (D) Capillary tube
63. Water inlet flow of the water cooler is controlled by :
- (A) Expansion valve (B) Solenoid valve
(C) Float valve (D) Pressure regulating valve
64. Thermostatic expansion valve function with :
- (A) Suction pressure (B) Discharge pressure
(C) Suction temperature (D) Discharge temperature
65. Excessive frost collection inside the deep freezer is :
- (A) Lower freezer temperature (B) Spoil the food content
(C) Acts as an insulation (D) Gives maximum cooling
66. Reason for Thermostat not cutout is :
- (A) Thermostat contacts welded (B) Low voltage
(C) Storage tank is empty (D) Float valve stuck in close position

67. An object with a difference of potential exists between it and earth is called :
(A) Live (B) Dead
(C) Earth electrode (D) Resistance Area
68. The reason for thermostat become defective is :
(A) Moisture in the system (B) Lack of lubrication oil
(C) Carbon formation in contact points (D) OLP is not responding
69. In Freon group condenser tubes are :
(A) Aluminium (B) Brass
(C) Steel (D) Copper
70. The cooling capacity of 1 ton of refrigeration is :
(A) 5,000 BTU/hr (B) 12,000 BTU/hr
(C) 18,000 BTU/hr (D) 2,44,000 BTU/hr
71. The instrument used for finding the leakage of Freon and Methyl chloride is :
(A) Thermostat (B) Halide torch
(C) Psychrometer (D) Hydrometer
72. In the following which one is not a part of an oil pressure safety control?
(A) Bimetal strip (B) Contact points
(C) Reset button (D) Feeler bulb
73. In a Fin & Tube type Air cooled condenser Fins are provided for :
(A) Protect the tube from damage (B) Strengthen the tube
(C) Increasing the heat transaction rate (D) Giving a good shape
74. Expansion valve is located :
(A) Before the evaporator (B) Before the drier
(C) After the evaporator (D) Before the condensor
75. What is the expansion of LED?
(A) Light emitting device (B) Light emitting diode
(C) Light ejecting device (D) All of the above