169/2016

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. One tonne of refrigeration is equal to :

   (A) 21 KJ/min
   (B) 420 KJ/min
   (C) 210 KJ/min
   (D) 620 KJ/min

2. A water cooler is uses the refrigerant :

   (A) R 22
   (B) R 21
   (C) R 717
   (D) $R134_a$

3. What is the angle of point of centre punch?

   (A) 90°
   (B) 60°
   (C) 45°
   (D) 30°

4. The switch should control the line :

   (A) Earth
   (B) Phase
   (C) Neutral
   (D) Common

5. A compressor coupled to a motor externally is called :

   (A) Sealed compressor
   (B) Open type compressor
   (C) Semi-sealed compressor
   (D) None of the above

6. The purpose of a filter drier is to remove :

   (A) Oil
   (B) Gaskets
   (C) Moisture
   (D) Sludge

7. The storage capacity of a dissolved acetylene cylinder is :

   (A) 6.0 m^3
   (B) 6.5 m^3
   (C) 7.0 m^3
   (D) 7.5 m^3

8. The heart of refrigeration system is :

(A) Liquid receiver (B) Condenser

(C) Evaporator (D) Compressor

9. Velocity is measured in the units of :

(A) RPM (B) CFM

(C) Kg Km^2 (D) F.P.M

10. Colour code of ammonia refrigerant cylinder :

(A) Light blue (B) Light green

(C) Orange (D) Silver

11. Identify the zeotropic refrigerant from the following :

(A) R-40 (B) R407C

(C) R-22 (D) R12

12. Double cut file is made of :

(A) Cast steel (B) Cast iron

(C) High carbon steel (D) Spring steel

13. In air – refrigeration system, the coefficient of performance is :

(A) High (B) Low

(C) Very high (D) Moderate

14. A low side float valve maintains the level of refrigerant in :

(A) Flooded evaporator (B) Evaporator

(C) Condenser (D) Compressor

15. – 40° F is :

(A) – 40° C (B) + 40° C

(C) 4.4 ° C (D) – 10° C

16. The ball bearings of electrical motor are lubricated by :

(A) Grease (B) Air

(C) Oil (D) Water

17. Stabiliser used for 1.0 TR A/C is :

(A) 3 KVA
(B) 3.5 KVA
(C) 4 KVA
(D) 4.5 KVA

18. Which one of the following gives DC supply?

(A) Alternator
(B) Transformer
(C) Motor
(D) Dynamo

19. For checking the air movement, there is an instrument called :

(A) Thermometer
(B) Speedometer
(C) Anemometer
(D) Multimeter

20. The chemical formula of $R134_a$ is :

(A) $C_2H_2F_4$
(B) $C_2CL_2F_4$
(C) $CHCL_2F$
(D) $CHCL_2$

21. The thermostat for the window type air-conditioner is set at :

(A) 75°F
(B) 80°F
(C) 85°F
(D) 65°F

22. Auto defrost operated by :

(A) Timer switch
(B) Heating element
(C) Thermostat
(D) Evaporator fan

23. Brine solution density is checked by :

(A) Tachometer
(B) Anemometer
(C) Barometer
(D) Hydrometer

24. An ideal refrigerants is one whose boiling point is :

(A) High
(B) Medium
(C) Low
(D) Very High

25. The condenser in indirect system, condenses :

(A) Oil
(B) Refrigerant
(C) Brine
(D) Water

26. High side float valve is fitted on the condensing unit just after the :

(A) Receiver
(B) Compressor
(C) Condenser
(D) Evaporator

27. According to Ohm's law I = :

(A) V.R
(B) $\frac{R}{V}$
(C) R.V
(D) $\frac{V}{R}$

28. When air is heated relative humidity :

(A) Decreases
(B) Increases
(C) Very high
(D) None of the above

29. Which chemical is used for condenser descaling?

(A) Phosphoric acid
(B) Sulphuric acid
(C) Citric acid
(D) Hydrochloric acid

30. Which refrigerant charged in car A.C?

(A) R11
(B) R22
(C) $R134_a$
(D) R12

31. The pipes which are used for absorption refrigeration system :

(A) Galvanised
(B) Steel
(C) PVC
(D) Brass

32. Convert from CFC 12 to $HFC134_a$ appliance, the compressor displacement will be :

(A) Slightly larger
(B) Smaller
(C) Equal
(D) Double

33. Dry ice is :

(A) Ammonia
(B) H_2O
(C) Carbon mono-oxide
(D) Carbon dioxide

34. Relay is protection device used in :

(A) Evaporator (B) Compressor

(C) Condenser (D) Thermostat

35. Weak insulation can be checked by :

(A) Ammeter (B) Meggar

(C) Tong tester (D) Line tester

36. In window type air-conditioners the following expansion device used :

(A) Float valve (B) Thermostatic expansion valve

(C) Capillary tube (D) Hand valve

37. Freon 12 ideal pressure is :

(A) 2.0 Kg/Cm^2 (B) 2.5 Kg/Cm^2

(C) 3.5 Kg/Cm^2 (D) 6.0 Kg/Cm^2

38. The storage capacity of a oxygen cylinder is :

(A) 6.0 m^3 (B) 6.5 m^3

(C) 7.01 m^3 (D) 7 m^3

39. What is the range of flame temperature of oxygen-hydrogen gases?

(A) 1800 to 2000°C (B) 2000 to 2200°C

(C) 2400 to 2700°C (D) 3100 to 3300°C

40. Which type of flux is used for soldering G.I sheets?

(A) NH_4Cl (B) $ZnCl_2$

(C) Resin (D) HCl

41. The cooling capacity of 1.0 TR is :

(A) 6000 BTU/Hr (B) 12000 BTU/Hr

(C) 18000 BTU/Hr (D) 24000 BTU/Hr

42. The atmospheric pressure at sea level is taken as :

(A) 1.03 Kg/Cm^2 (B) 1.02 Kg/Cm^2

(C) 1.033 Kg/Cm^2 (D) 1.023 Kg/Cm^2

43. The freezing temperature of water is :

(A) 1°C (B) –1°C

(C) –4°C (D) 0°C

44. The mechanical fault in refrigerator system is :

(A) High voltage (B) Condenser coil dirty

(C) Over load protector burnt (D) Relay defective

45. Boiling point of $R600_a$ is :

(A) –15.8°C (B) –14.8°C

(C) –11.8°C (D) –10.8°C

46. The condenser coil type which used in deep freezer commonly :

(A) Flooded type (B) Natural draft

(C) Plate type (D) Force draft

47. Internal energy of a substance is proportional to :

(A) Velocity (B) Temperature

(C) Pressure (D) None of the above

48. The closing of churner and top cover done air tight by :

(A) 'O' ring (B) Seal

(C) Gasket (D) Sticking tape

49. The thread angle of National fine thread is :

(A) 25° (B) 35°

(C) 40° (D) 45°

50. Select the 'pitch' of a medium hacksaw blade from the following :

(A) 1.8 mm
(B) 1.0 mm and 4 mm
(C) 1.4 mm and 1.0 mm
(D) 0.8 mm

51. Refrigerator compressor motor winding burnt out :

(A) High voltage
(B) Loose connection
(C) Over load protector defective
(D) Low voltage

52. Which of the following is not a desirable property of a good insulating material?

(A) Light weight
(B) High heat conductivity
(C) Odourless
(D) Low cost

53. Compressor used in window A/c is :

(A) Rotary compressor
(B) Reciprocating compressor
(C) Sealed compressor
(D) Open type compressor

54. How many operations are in service valve?

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

55. The most possible leakage spots in the refrigerator is :

(A) Capillary tube
(B) Brazing tube joints
(C) Condenser
(D) Evaporator

56. One Kilowatt is equal to :

(A) 1.34 H.P
(B) 1.66 H.P
(C) 1 H.P
(D) 1.5 H.P

57. It is an instrument used to measure high temperature :

(A) Psychrometer
(B) Pyrometer
(C) Thermometer
(D) Micrometer

58. The operation of split A/c produces :

(A) High noise
(B) Medium noise
(C) Low noise
(D) No noise

59. Ball bearing can be removed by using :

(A) Ring spanner
(B) Mallet
(C) Puller
(D) Hammer

60. The metal wire which give good earth contact is :

(A) Copper
(B) GI
(C) Brass
(D) Aluminium

61. Name the temperature at which moisture condenses on a surface :

(A) Relative humidity
(B) Grains of moisture
(C) Dew point temperature
(D) Humidity

62. Name the correct tool which is used to cut wires :

(A) Wire cutter
(B) Tube cutter
(C) Shear
(D) Combination plier

63. Select the minimum number of diodes used in fulwave rectifier :

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

64. The unit of pressure in SI system is :

(A) N/m
(B) N/m^1
(C) N/m^2
(D) N/m^3

65. The amount of heat required in calories to raise the temperature of one gram of substance through 1°C is :

(A) Sensible heat
(B) Specific heat
(C) Latent heat
(D) B.t.u

66. Specify the thickness of a sheet metal having 18 SWG (Standard Wire Gauge) :

(A) 1.02
(B) 1.63
(C) 1.01
(D) 1.22

67. The size of 1/2" copper tube is equal to :

(A) 12 mm
(B) 13 mm
(C) 14 mm
(D) 15 mm

68. 350 litres refrigerator ———— compressor is used.

(A) 1/4 H.P
(B) 1/5 H.P
(C) 1/6 H.P
(D) 1/8 H.P

69. The temperature in degree centigrade for human comfort is :

(A) 15
(B) 17
(C) 19
(D) 21

70. If the vacuum level inside the refrigerator is 30 mm of Hg the moisture boiling temperature will be :

(A) 25°C
(B) 30°C
(C) 35°C
(D) 40°C

71. The size of the gasket is depends on :

(A) Width
(B) Thickness
(C) Length
(D) Area

72. The material with highest ductility :

(A) Cast iron
(B) Tin
(C) Copper
(D) Gold

73. To cool 20 litres of water from 32°C to 12.5°C in one hour. Calculate the amount of heat removed :

(A) 370 Kcal/Hr
(B) 380 Kcal/Hr
(C) 390 Kcal/Hr
(D) 400 Kcal/Hr

74. In large capacity air – conditioning applications the following expansion device is used :

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

75. Relative humidity of air at the grill of an air-conditioner as compared to the room humidity is :

(A) Less
(B) More
(C) Same
(D) None of the above

76. The Global Warming Potential (GWP) of $R134_a$ is :

(A) 1500
(B) 1400
(C) 1300
(D) 1200

77. The solder wire used in electronic soldering melts at :

(A) 400°C
(B) 200°C
(C) 600°C
(D) 800°C

78. Select the material used to check the tightness of door gasket of a refrigerator :

(A) Gasket sheet
(B) Rubber sheet
(C) Paper sheet
(D) Plastic sheet

79. When a pressure switch cut-out, it will make the drive to :

(A) Stop
(B) Start
(C) Run on various speed
(D) Run slowly

80. When wet bulb and dry bulb temperature are equal the humidity is :

(A) 100%
(B) 90%
(C) 80%
(D) 60%

81. Who was known as India's unofficial ambassador in England?

(A) Dadabhai Naoroji
(B) Gopala Krishna Gokhalae
(C) Subash Chandra Bose
(D) Bipin Chandra Pal

82. Where is the central secretariat of ASEAN located?

(A) Paris
(B) Burma
(C) Philippines
(D) Jakarta

83. Which day was fixed as Direct Action Day by the Muslim League?

(A) October 16
(B) August 16
(C) August 26
(D) September 16

84. Name the person who used the term 'cold war' for the first time :

(A) Franklin Roosevelt
(B) Walter Lippmann
(C) Bernard Baruch
(D) Albert Hoffman

85. Urdu daily started by Lala Lajpat Rai :

(A) Vande Mataram
(B) Kesari
(C) Sambad Koumudi
(D) Common Wheel

86. Name the person associated with kuka movement :

(A) Raja Toder Mal
(B) Bhagat Jawahar Mal
(C) Bhagat Singh
(D) Chandrasekhar Azad

87. Who were Jotedars?

(A) Rich Peasants
(B) Money Lenders
(C) Tax Collectors
(D) Zamindars

88. Which act of the British was termed as the "Gagging Act"?

(A) Regulating act
(B) Rowlat act
(C) Vernacular Press act
(D) Pitt's India act

89. Which country is known as the cradle of renaissance movement?

(A) Germany
(B) Italy
(C) France
(D) Switzerland

90. Founder of samatva samajam :

(A) Sree Narayana Guru
(B) Vagbhadananda
(C) Chattambi Swamikal
(D) Vaikunda Swamikal

91. The painting 'Relief of Lucknow' was painted by :

(A) Thomas Jones Barker
(B) Ravivarma
(C) Joseph Noel Paton
(D) Miss Wheeler

92. The largest temple in the world 'Ankorvat' built by :

(A) Yasovarman
(B) Rudravarman
(C) Suryavarman
(D) Jayavarman

93. Who is known as the father of Continental Drift Theory?

(A) Berry Willis
(B) Alfred Wegener
(C) Alfred Marshall
(D) Harold Jeffrey

94. The ruins of Hampi were discovered by :

(A) Colonel Cohn Mackenzie
(B) Alexander Green Law
(C) J.F. Fleet
(D) George Michelle

95. Father of local self government in India :

(A) Lord Canning
(B) Lord Ripon
(C) Lord Dufferin
(D) Lord Dalhousie

96. Which famous writer coined the term 'Banana Republic' to denote politically unstable countries?

(A) Winston Churchill
(B) Grover Cleveland
(C) Henry
(D) Adam Smith

97. Which team won Azlan Shah Hockey Tournament in 2013?

(A) Malaysia
(B) Netherland
(C) Pakistan
(D) Australia

98. Who was a active member of secret society "Lotus and Dagger" to liberate India from the British?

(A) A.O. Hume
(B) Aurobindo Gosh
(C) K. Kamaraj
(D) Palindas

99. The founder of St. Joseph's press at Mannanam :

(A) Thomas Malpan
(B) Thomas Kathanar
(C) Mar Kuriakose Elias Chavara
(D) Kayamkulam Philipose

100. The system of competitive examination for civil service was accepted in principle in the Year :

(A) 1852
(B) 1863
(C) 1856
(D) 1853