

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 m³
(B) 6.5 m³
(C) 7.0 m³
(D) 7.5 m³

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) C₂H₂F₄ (B) C₂CL₂F₄
(C) CHCL₂F (D) CHCL₂
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) H₂O
(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/Cm² (B) 2.5 Kg/Cm²
(C) 3.5 Kg/Cm² (D) 6.0 Kg/Cm²
38. The storage capacity of a oxygen cylinder is :
- (A) 6.0 m³ (B) 6.5 m³
(C) 7.01 m³ (D) 7 m³
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) NH₄Cl (B) ZnCl₂
(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/Cm² (B) 1.02 Kg/Cm²
(C) 1.033 Kg/Cm² (D) 1.023 Kg/Cm²
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 $1^\circ C$ 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