

- 6**
- a** Define the following refrigeration terms :
i) Refrigerant ii) Ton of refrigeration iii) COP iv) Relative COP v) Refrigerating effect **(05 Marks)**
 - b** Define refrigeration. State the application of refrigeration **(05 Marks)**
 - c** With the help of a flow diagram, explain the functioning of Vapor Compression refrigeration cycle. **(10 Marks)**

MODULE – IV

- 7 **a** Classify and explain various types of Steel (10 Marks)
 b With a neat sketch explain the Arc welding method. (10 Marks)

OR

- 8 **a** Derive an expression for length of belt in open belt drive. (10 Marks)
 b A shaft running at 100 rpm, is to drive a parallel shaft at 150 rpm. The pulley on the driving shaft is 350 mm in diameter. Find the diameter of the driven pulley. (10Marks)
 Calculate the linear velocity of the belt and the velocity ratio.

MODULE – V

- 9 **a** Explain the following machining operations on Lathe machine with suitable sketches (i) Turning (ii) Facing (iii) Thread cutting (iv) Knurling (10 Marks)
 b With a neat sketch explain the working of vertical milling machine (10 Marks)

OR

- 10 **a** Explain the advantages and applications of robots in industries. (10Marks)
 b Discuss the elements of a CNC system with a neat block diagram. (10 Marks)

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