1. Draw FREE hand sketches of any THREE of the following - (3x15=45)
   a) Assembly of simple bench vice
   b) Sketch a sectional view of taper roller bearing and indicate the various parts of it &
      show its conventional representation
   c) Spur gear and its nomenclature
   d) Reciprocating compressor open type for RAC
   e) Simple duct for RAC

2. Elevation and side view of an object shown below in Third Angle Projection. Draw its Top view. (20)

3. Orthographic drawing of a “V” belt pulley shown below. Study the drawing and answer the following
   questions. (5x2=10)
   i) What is the outside diameter of the pulley?
   ii) What is the angle of the V-groove?
   iii) What is the bore diameter?
   iv) What is the depth of the V-groove?
   v) What is the size of tapped hole?