



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 1 Examination in Engineering: July 2016

Module Number: ME1201

Module Name: Engineering Drawing

[Three Hours]

[Answer all questions, each question carries 10 marks]

- Q1. a) Construct a regular hexagon having sides of 100 mm length. [3.0 Marks]
- b) Graphically divide one of the edges of the above hexagon in to seven equal segments. [3.0 Marks]
- c) A given line AB is 75 mm long and is 45° and 60° inclined to the vertical plane (VP) and the horizontal plane (HP), respectively. Point A of the line is 10 mm above the HP and is 15 mm in front of the VP. If the line is in the 1st quadrant, draw its projections on the HP and VP. [4.0 Marks]
- Q2. With reference to the object shown in Figure Q2, draw the following orthographic views using the Third Angle projection. (Note: all dimensions are in millimetres)
- a) Sectional front view across the plane ABCD (looking in the direction of arrow X). [4.0 Marks]
- b) Plan view. [3.0 Marks]
- c) Right side view. [3.0 Marks]
- Q3. On a single plane, draw the following objects having the specified distances between the focus and the directrix (FD), and eccentricities (e).
- a) An ellipse with $FD = 50$ mm and $e = 2/3$ [4.0 Marks]
- b) A parabola with $FD = 50$ mm and $e = 1$ [3.0 Marks]
- c) A hyperbola with $FD = 50$ mm and $e = 3/2$ [3.0 Marks]
- Q4. Figure Q4, shows an exploded view of a wheel assembly to be used in a machine. Produce the following orthographic views of the wheel assembly using Third Angle projection. You may assume any dimensions not given in Figure Q4. (Note: all dimensions are in millimetres)

a) Front view (looking in the direction of arrow X)

[4.0 Marks]

b) Top view.

[3.0 Marks]

c) Right side view.

[3.0 Marks]

Q5. Figure Q5, shows the orthographic projections of an object drawn in the First Angle projection. Draw the isometric view of the object looking in the direction shown by the arrows. Use the Isometric Scale. (Note: all dimensions are in millimetres)

[10.0 Marks]

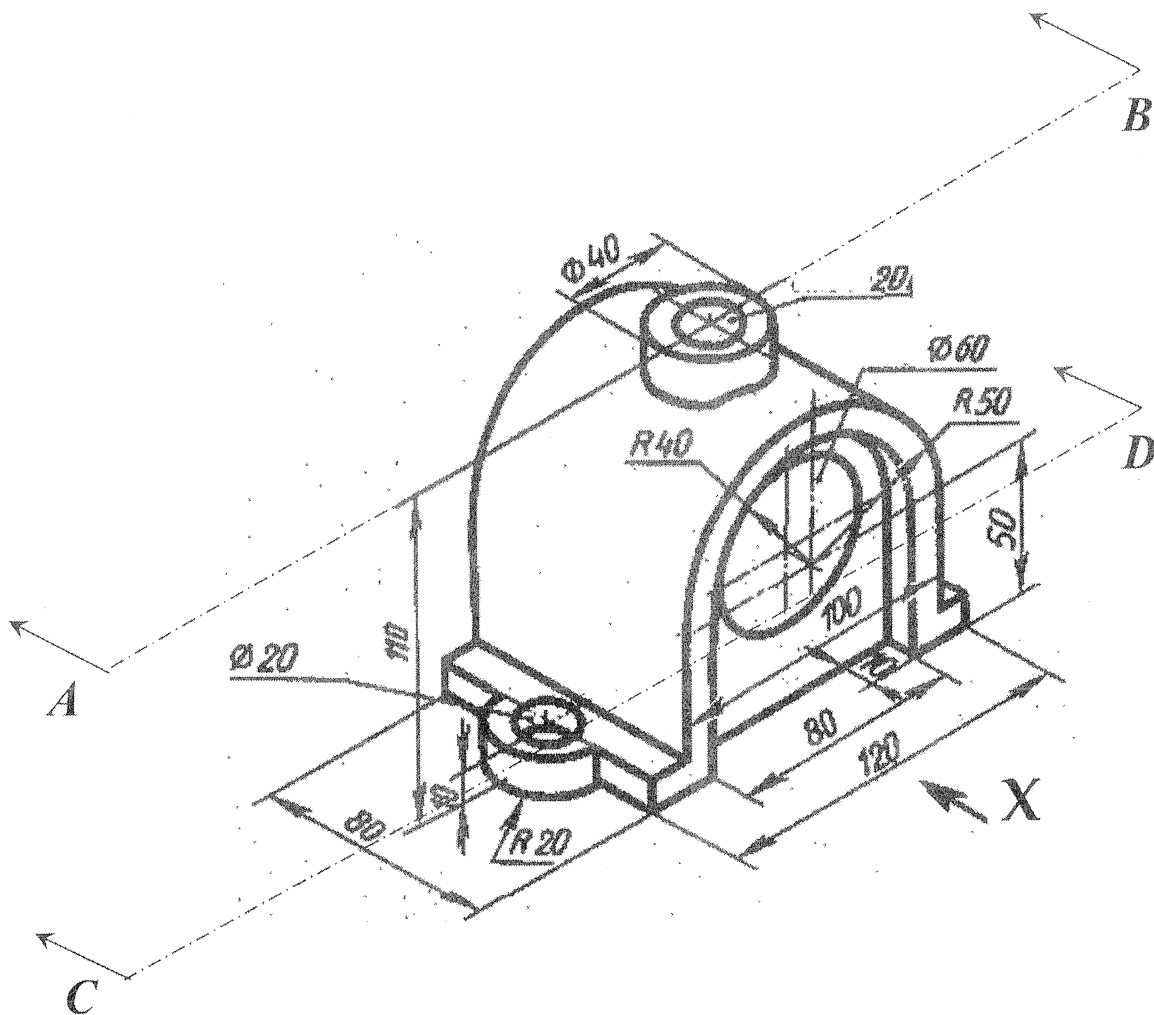


Figure Q2

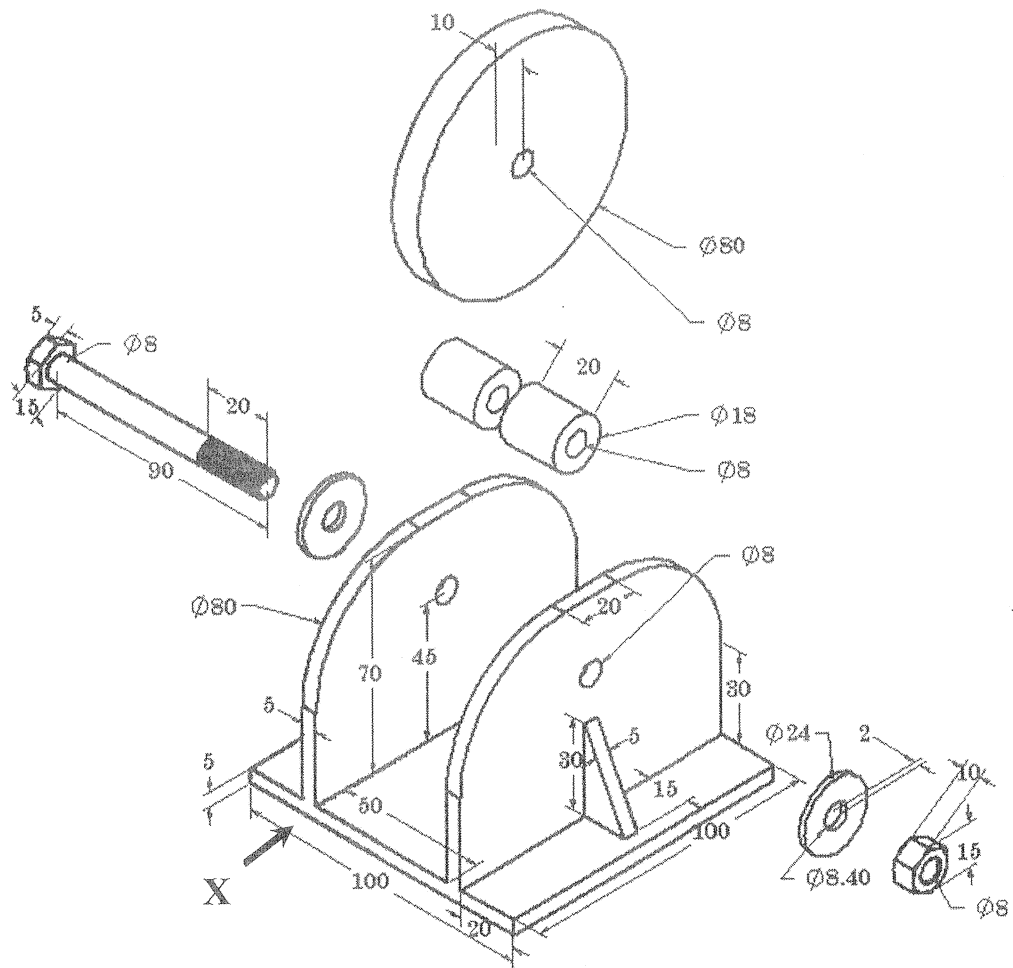


Figure Q4

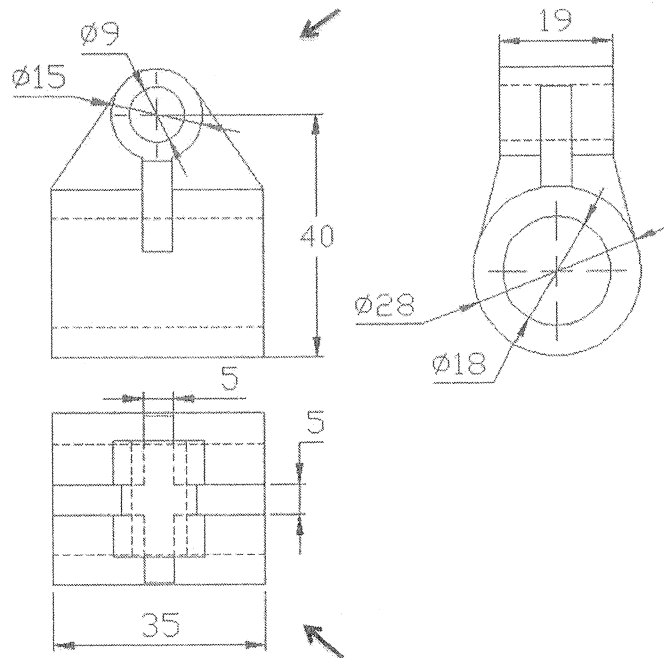


Figure Q5