



MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
FIRST YEAR FIRST SEMESTER EXAMINATION FOR
BACHELOR OF SCIENCE IN CIVIL ENGINEERING

ECV 100: ENGINEERING DRAWING I

DATE: 24/5/2019

TIME: 11.00-1.00 PM

INSTRUCTIONS

Answer **Three** Questions. Question **One** Is Compulsory

1. a) Construct an ellipse whose
Major axis=80mm
Minor axis=60mm, using intersecting lines method (10 marks)
- b) Draw Tangent and Normal to the ellipse in 1b) above (10 marks)
- c) Using **Universal method**, construct a regular heptagon (10 marks)
2. a) Construct a parabola with focus (f) 20mm from a horizontal directrix. (10 marks)
- b) Construct a hyperbola with an eccentricity of 1.25 and focus(f) of 20mm from a vertical directrix. (10 marks)
3. a) Construct a helix of diameter 60mm and determine; (10 marks)
 - i) Helix pitch (5 marks)
 - ii) Helix angle (5 marks)

4. **Fig. Q 2** shows a solid block. Using Third angle orthographic projection, draw;

- a) Front Elevation in the direction F (10 marks)
- b) Plan (5 marks)
- c) End View (5 marks)

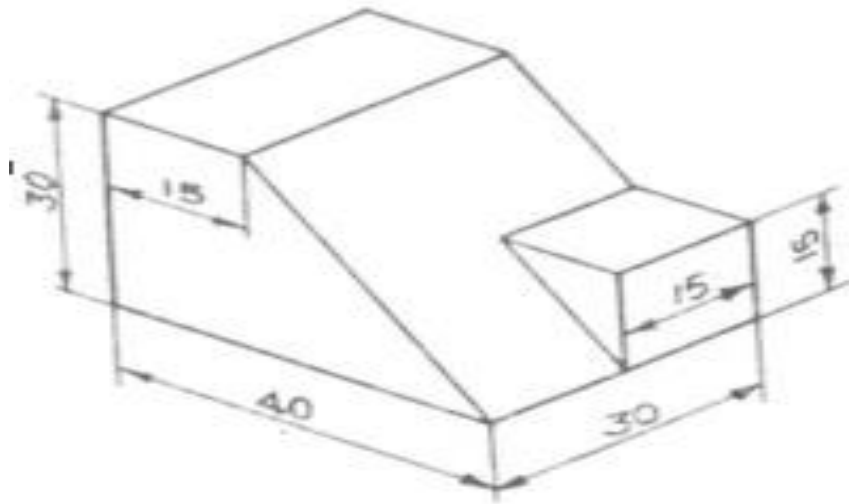


Fig. Q 2

- 5. a) Draw a regular hexagon of side 50 mm using the **universal method** (5 marks)
- b) **Fig. Q5** shows a regular pentagonal prism. Using first angle orthographic projection draw
 - i) Front Elevation (5 marks)
 - ii) Plan (5 marks)
 - iii) End elevation (5 marks)

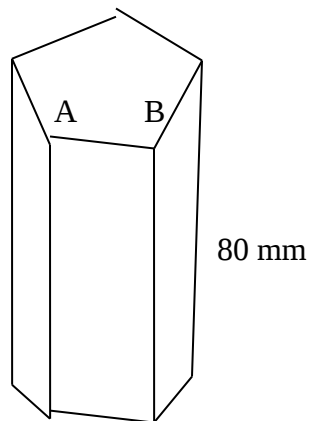


Fig. Q5

AB = 30 mm

height = 80 mm