



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:
BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

TMC 4111 : ENGINEERING DRAWING I
SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: SEPTEMBER 2018
TIME: 3 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

-Drawing instruments.

This paper consists of five questions.

Attempt question ONE (Compulsory) and any other TWO questions

Do not write on the question paper.

QUESTION ONE (COMPULSORY) 20 Marks

The end P of a 10cm long line PQ shown below slides vertically downwards. The end Q moves along the line AB towards A and then back to B. plot the locus of the point O on PQ and 4cm from P

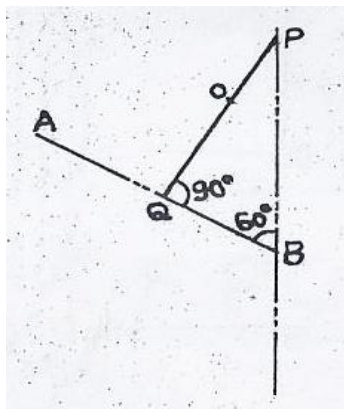


Fig Q1

ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 Marks)

Draw the isometric projection of the Vee Block shown in Fig Q2 below indicating all the dimensions.

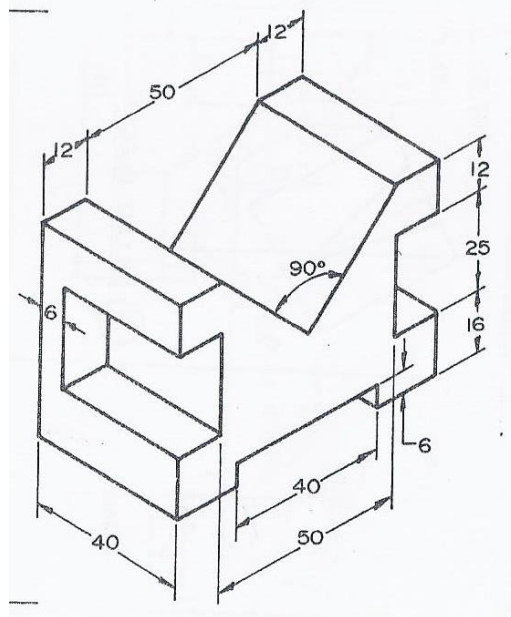


Fig Q2

QUESTION THREE (20 Marks)

- a) Create freehand oblique sketches of the objects in Figure Q3 (a) and (b). (The objects are shown as oblique projections, so you must simply recreate the drawing by freehand sketching.)

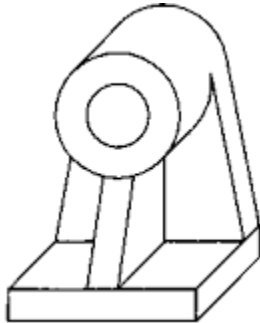


Fig Q3 (a)

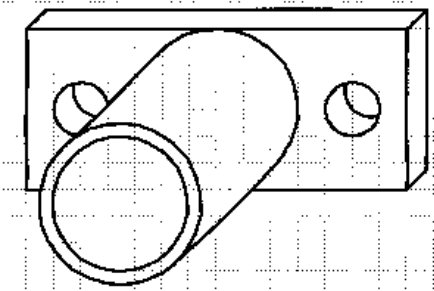


Fig Q3 (b)

- b) Create freehand isometric sketches of the objects in Figure Q3 (c) and (d). (The objects are shown as isometric projections, so you must simply recreate the drawing by freehand sketching.)

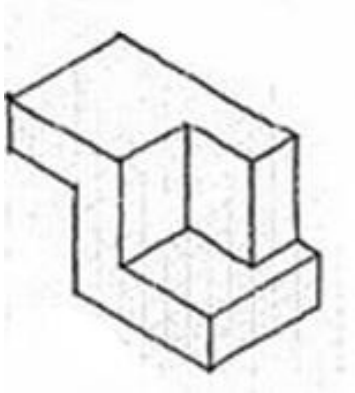


Fig Q3 (c)

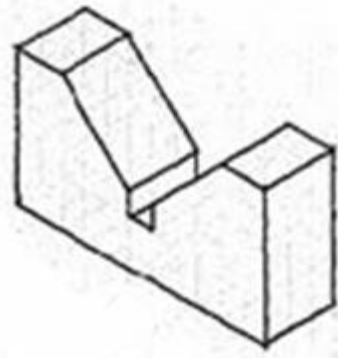


Fig Q3 (d)

QUESTION FOUR (20 Marks)

Plot the cam profile which meets the following specifications:

Shaft diameter – 15mm

Minimum diameter – 25mm

Lift – 12mm

Performance – 90° uniform velocity to maximum lift
 90° dwell
 180° uniform retardation to maximum fall

Rotation – Clockwise

Your cam profile must be drawn twice full size

QUESTION FIVE (20 Marks)

Draw the first angle orthographic projection of Fig Q5 indicating all the dimensions and the relevant symbol. The arrow points in the direction of the Front Elevation.

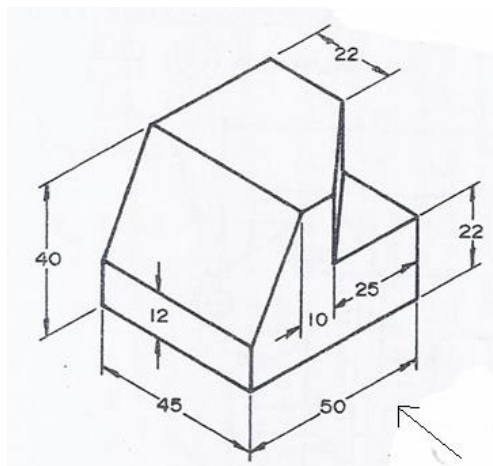


Fig Q5