

**THE MOMBASA POLYTECHNIC UNIVERSITY
COLLEGE**

FACULTY OF ENGINEERING &TEHNOLOGY

**Department of Computer Science & Information
Technology**

**BACHELOR OF TECHNOLOGY IN INFORMATION &
COMMUNICATION**

BTECH.ICT2K MAY 11(Yr1 Sem2)

First Year Semester Two Sup Exam

Nov/Nov 2011

Computer Aided & Design & Art

CODE: BIT 2111

Time 2 Hours

Instructions

This paper contains 5 questions:

Answer Question ONE & any other TWO questions

QUESTION ONE [COMPULSORY, 30 MARKS]

- a) Describe the top down development approach as used in cad design and development [4 marks]
- b) Differentiate between atomic data types and structured data types [4 marks]
- c) Describe any Five operations that can be done on an abstract data type [5 marks]
- d) Differentiate between that array based implementation and pointer based implementation of an abstract data type [8 marks]
- e) A stack is a popular data structure that is used by CAD programs. Briefly explain [9 marks]
 - i. Two real life applications of a stack:
 - ii. Common stack operations
 - iii. How An array can be used to implement a stack

QUESTION TWO [20 marks]

Fig 1 below shows the pictorial view of a wooden component.

- b) Draw a 3D model of the component [10 marks]
- c) Use four viewports to display the front elevation, end elevation and plan view [10 marks]

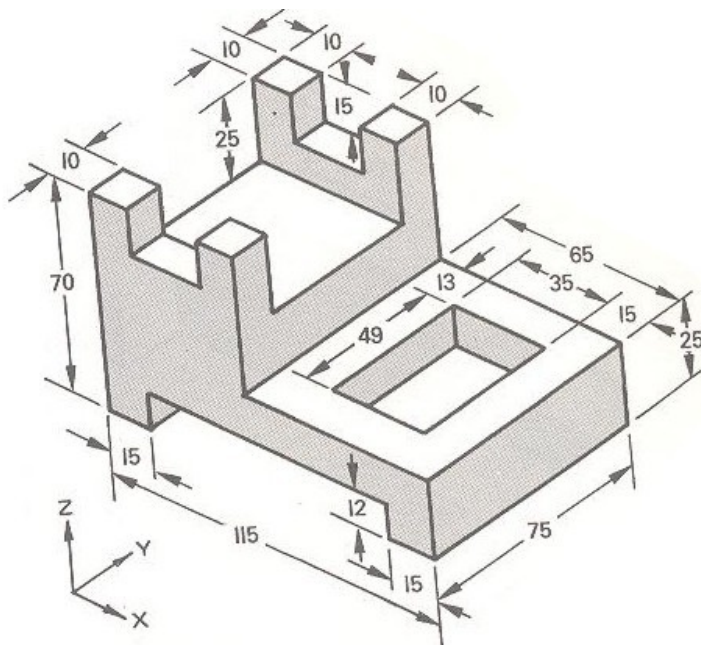


Figure 1

QUESTION THREE [20 marks]

Figure 2 below shows the elevation of an adjustable sector.

- a) Draw the elevation using a scale of 1:1
- b) Show at least 5 dimensions

[15 marks]
[5 marks]

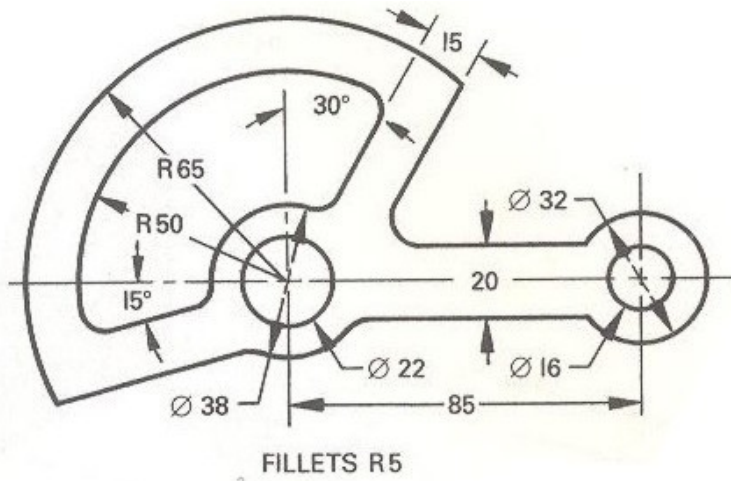


Figure 2

QUESTION FOUR [20 marks]

Figure 3 shows the elevation of a chisel.

Draw the elevation using a scale of 1:1

[14 marks]

Show all the dimensions

[6 marks]

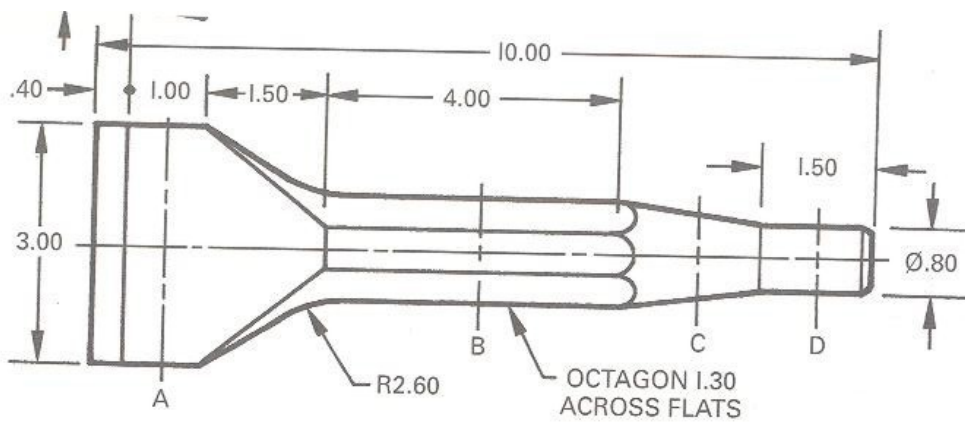


Figure 3

QUESTION FIVE [20 marks]

Figure 4 shows the pictorial view of a machine spindle.

- a) Model the component to a scale of 1:1
- b) Show all the dimensions

[14 marks]

[6 marks]

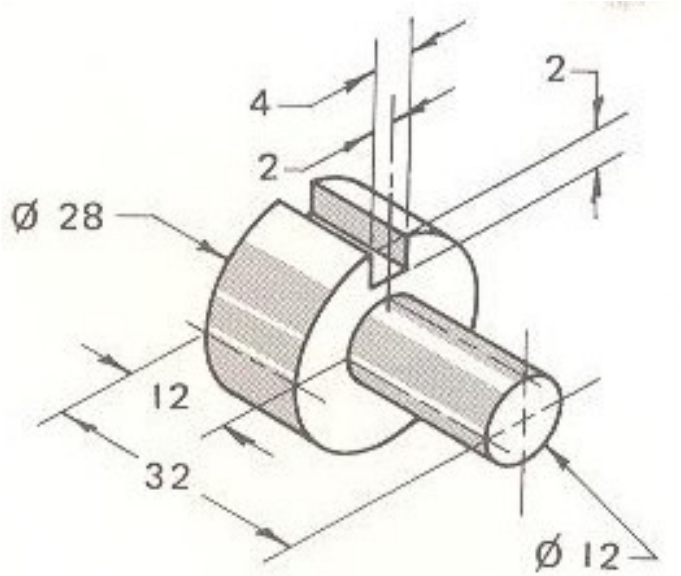


Figure 5