THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering and Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR DEGREE IN
BACHELOR OF SCIENCE IN INFORMATION COMMUNICATION TECHNOLOGY

(BTECH.ICT2K MAY 11(Yr1 Sem2)

BIT 2111: COMPUTER AIDED DESIGN & ART

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: FEBRUARY/MARCH 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions in **TWO** sections **A** & **B**
Answer question **ONE (COMPULSORY)** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

SECTION A (*Compulsory*)

QUESTION 1 (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.

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

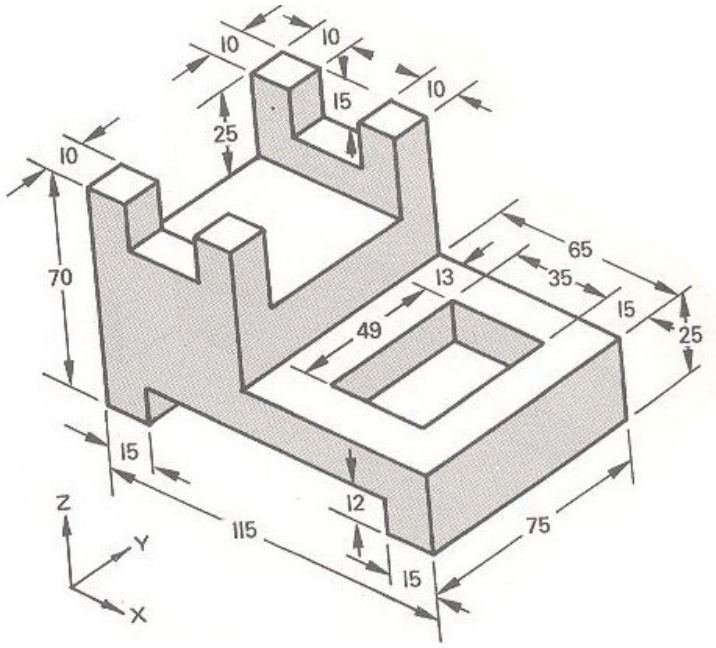

Figure1

QUESTION THREE [20 marks]

Figure 2 below shows the elevation of an adjustable sector.

a) Draw the elevation using a scale of 1:1 [15 marks]
b) Show at least 5 dimensions [5 marks]

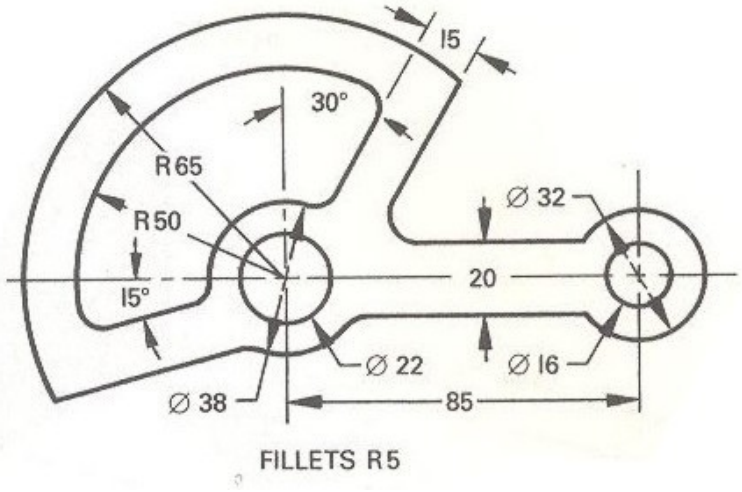

Figure 2

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]

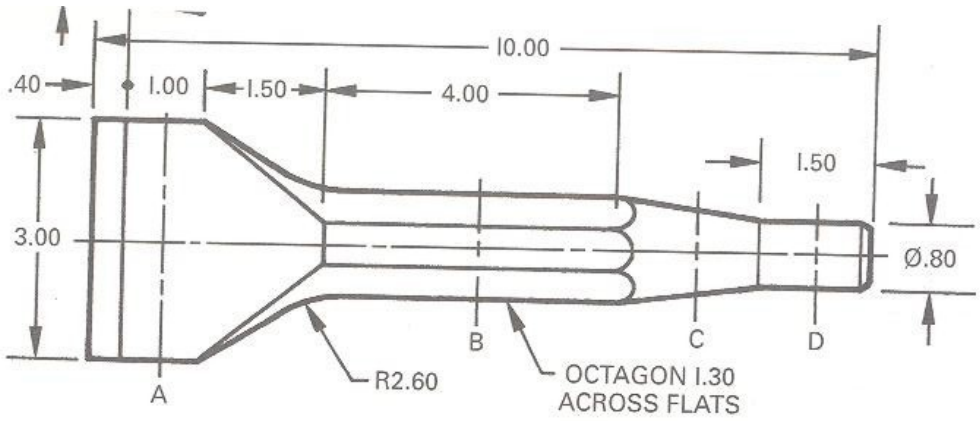

Figure 3

QUESTION FIVE [20 marks]

Figure 4 shows the pictorial view of a machine spindle.

a) Model the component to a scale of 1:1 [14 marks]
b) Show all the dimensions [6 marks]

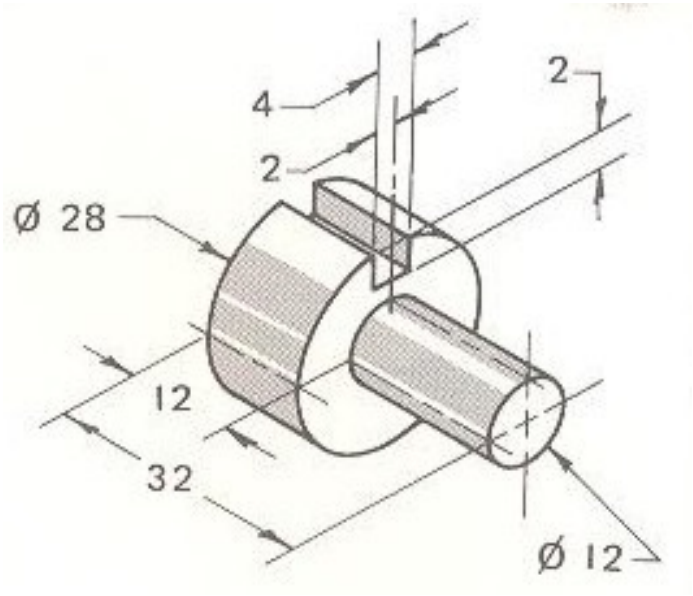

Figure 5