



**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

**PROGRAMME: B.Sc. LWM (YEAR III)**

**COURSE CODE: LUM 202 (NEW PROGRAMME)**

**TITLE OF PAPER: ENGINEERING DRAWING**

**TIME ALLOWED: TWO (2) HOURS**

**SPECIAL MATERIAL REQUIRED: DRAWING EQUIPMENT**

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO OTHER  
QUESTIONS.**

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GRANTED BY THE CHIEF INVIGILATOR**

## SECTION I COMPULSORY

### QUESTION 1

- a) Distinguish between engineering drawing and mechanical drawing. [6 marks]
- b) Name any six major instruments necessary for drawing. [6 marks]
- c) On a map of Swaziland, a 35 km distance between Mbabane and Manzini is shown by a line 45 cm long. Calculate the representative fraction and construct a plain scale to read kilometres and hectometres. Show a distance of 9 km between Mbabane and Ezulwini on the scale. [20 marks]
- d) What is the use of auxiliary views in multi-view drawing? Name any two primary auxiliary views. [8 marks]

## SECTION II ANSWER ANY TWO QUESTIONS

### QUESTION 2

- a) Name any five types of sectional views used in drawing [10 marks]
- b) A cube of side 40 mm rests on its square face in the horizontal plane, with the base edge inclined at  $30^\circ$  to the vertical plane. A cutting plane parallel to the vertical plane and perpendicular to the horizontal plane cuts at a distance of 10 mm from the centre of the cube. Draw the sectional front view and the plan. [20 marks]

**QUESTION 3**

a) Figure 1 shows part of the graphics screen of an AutoCAD programme. The figure shows the menu bar 1 and the drawing toolbar 2. Distinguish the roles of the menu bar and the toolbar during drawing in the graphics screen.

[10 marks]

b) What advantages are displayed by using snap and grid tools in drawing with autocad?

[8 marks]

c) Compare and contrast the following output components of a computer hardware used in autocad drawing:

- i) Display monitor
- ii) printer
- iii) plotter

[12 marks]

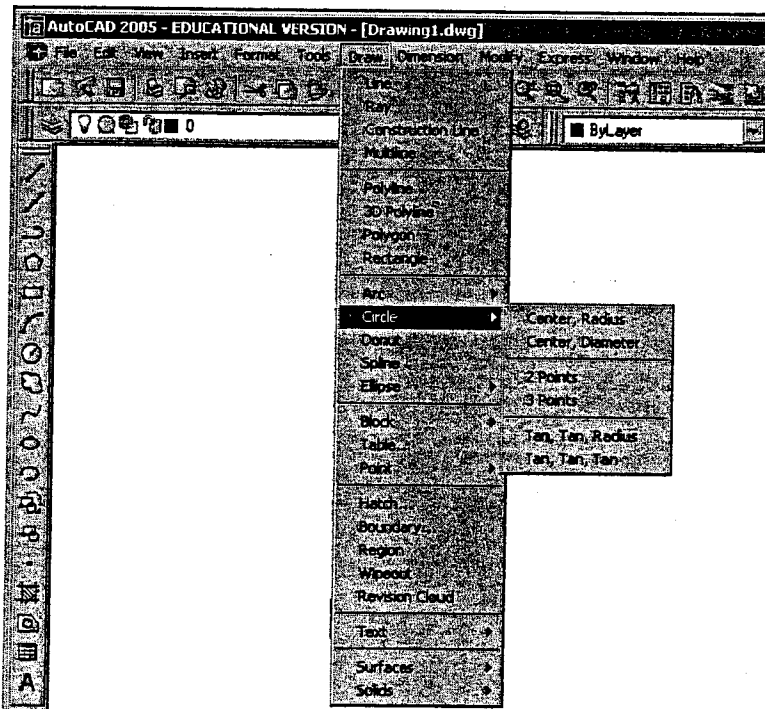


Figure 1 AutoCAD 2005 graphics screen

**QUESTION 4**

- a) Distinguish between dimension lines and extension lines as used in sizing of objects in drawing.

[10 marks]

- b) Figure 2 shows a slide block used on lathe. Sketch simple geometrical objects that make up the bracket. Show all the necessary location and size dimensions on the simple geometrical sketches.

[20 marks]

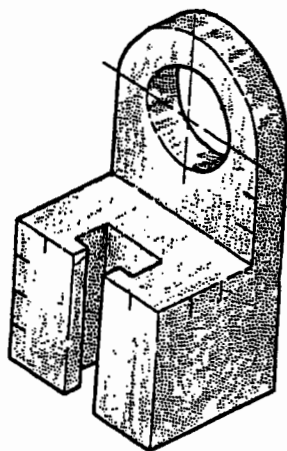


Figure 2 Machine slide block