UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER

PROGRAMME: BSC LWM. II
BSC LWM. 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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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 45 km distance between Modjane and Manzini is shown by a line 45 cm long. Calculate
(i) the representative fraction;
[6 marks]
(ii) construct a plain scale to read kilometres and hectometres. Show a distance of 15.6 km between Modjane and Mbabane on the scale.
[14 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]

a) Distinguish between isometric, and orthographic projection.
[10 marks]

b) Draw a sectional view of the offset cutting plane shown in figure 1 (attached).
[10 marks]

QUESTION 3

a) Discuss the advantages and disadvantages of using AutoCAD in engineering drawing.

[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]

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 machine tool support bracket.
Sketch simple geometrical objects that make up the bracket.

[10 marks]

Show all the necessary location and size dimensions on the simple geometrical sketches.

[10 marks]

Figure 1. An offset cutting plane of a base plate

Figure 2. Machine tool support bracket.

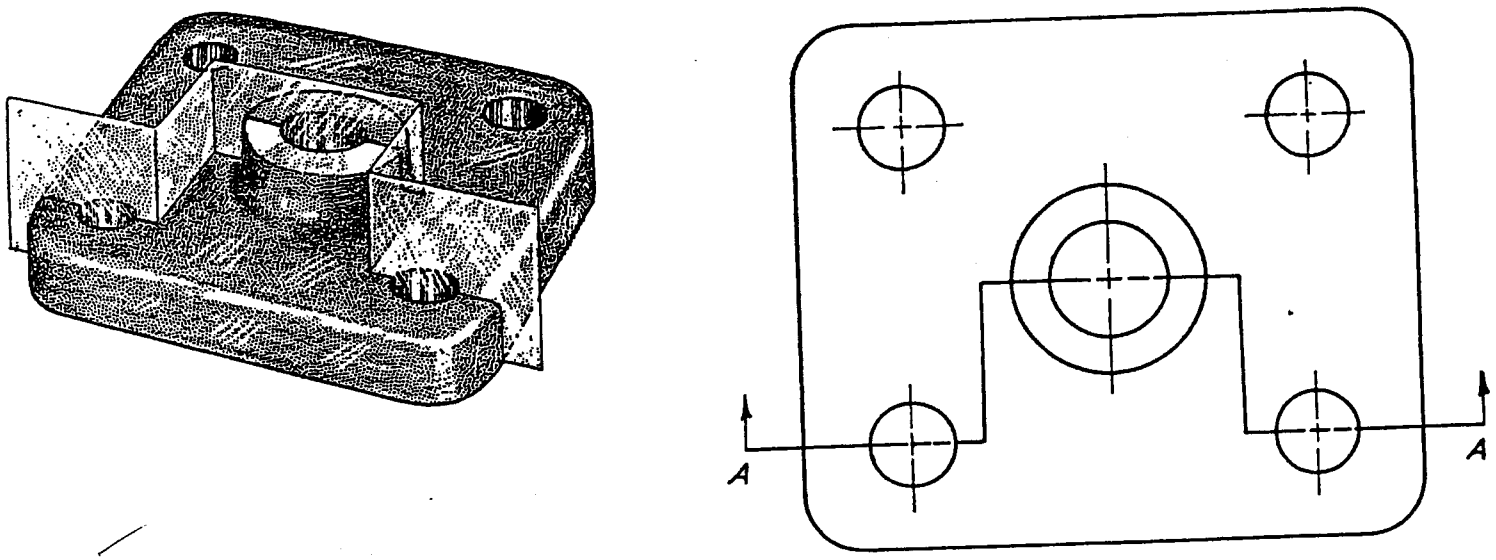

Figure 1. An offset cutting plane of a base plate

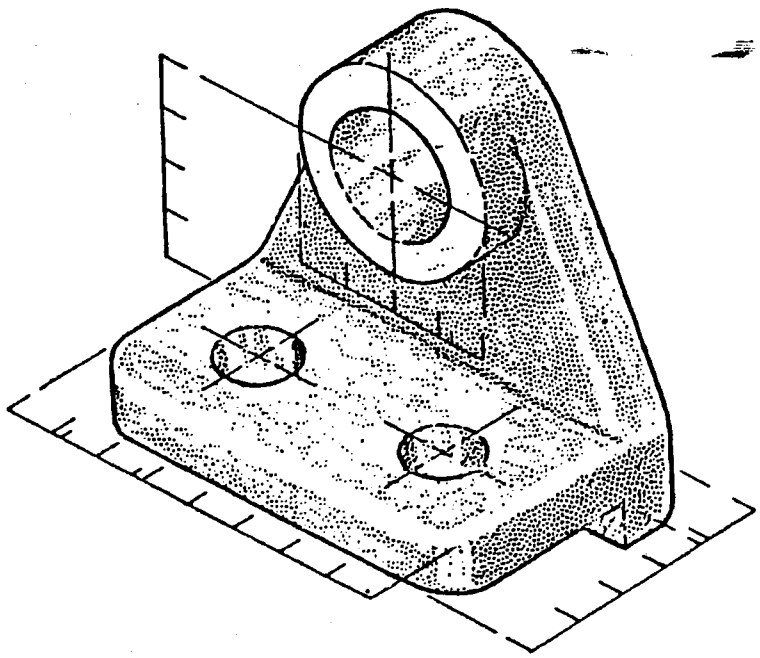

Figure 2. Machine tool support bracket.