



# TECHNICAL UNIVERSITY OF MOMBASA

## *Faculty of Engineering and Technology*

### DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

CERTIFICATE IN ELECTRICAL POWER ENGINEERING (CEPE I)  
CERTIFICATE IN ELECTRICAL & ELECTRONIC ENGINEERING (CEEE I)

### EME 1130 ENGINEERING DRAWING

END OF SEMESTER EXAMINATIONS

**SERIES:** DECEMBER, 2013

**TIME:** 2 HOURS

#### **INSTRUCTIONS TO CANDIDATES:**

1. You should have the following for this examination:
  - Drawing Instruments
  - Drawing paper size A<sub>2</sub>
2. This paper consists of **FIVE** Questions.
3. Answer Question **ONE** is **Compulsory**.  
Attempt any other **TWO** Questions marks are as shown.
4. All Questions carry equal marks.
5. **This paper consists of SIX printed pages.**

Question ONE

(a) Figure 1 shows the pictorial view of a machine bracket. Draw in first angle orthographic projection, the following views:

- (i) Front elevation in the direction of arrow F.
- (ii) The end elevation
- (iii) The plan

**(30 marks)**

### **Question TWO**

Figure 2 shows two views of a component drawn in orthographic projection. Construct the isometric view of the component. Take corner N as the lowest point.

**(15 marks)**

### **Question THREE**

Figure 3 shows the profile of a crane hook. Construct the hook to scale and show the construction work.

**(15 marks)**

### **Question FOUR**

(a) Draw an ellipse of major axis 140mm and minor axis 90mm using the rectangular method.

**(7 marks)**

(b) Figure 3b shows a truncated cylinder. Draw the surface development of the cylinder.

**(8 marks)**

### **Question FIVE**

(a) Write the abbreviations of the following engineering drawing terms:

- (i) Machined
- (ii)** Not to scale
- (iii)** Spot face
- (iv)** Across flats
- (v)** countersunk
- (vi)** Across corners

**(3 marks)**

(b) Sketch, the conventional symbols for the following:

- (i) Diameter
- (ii)** First angle orthographic projection
- (iii)** Power point
- (iv)** Siren

**(4 marks)**

(c) (i) Draw a line 95mm and divide it:

- (I) Into TEN equal parts
  - (II) In the ratio 2:3:5
- (ii) Construct a nonagon whose side length is 21mm by the perpendicular bisector method.
- (iii) Draw an inscribed circle for a triangle whose sides are (40 x 52 x 65)mm.

**(8 marks)**