TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
DIPLOMA IN ELECTRICAL ENGINEERING (DEE 1)
DIPLOMA IN ELECTRICAL AND POWER ENGINEERING (DEPE 1)

EME 2105
ENGINEERING DRAWING & DESIGN

SPECIAL/SUPPLEMENTARY EXAMINATIONS

SERIES: MARCH, 2014

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1.   You should have the following for this examination:
     - Answer Booklet
     - Scientific Calculator
     - Drawing Instruments

2.   This paper consists of **FIVE** Questions.
3.   Answer Question **ONE** is Compulsory.
     Answers Question **ONE** and any other **TWO** Questions.
4.   All Questions carry equal marks.
5.   **This paper consists of SIX printed pages.**

Question ONE (Compulsory)

Figure 1 shows an isometric drawing of a Special Bracket. Draw FULL size using 1st angle projection the following views.

(a) Front elevation from arrow E.
(b) A sectional end elevation along the cutting plane A-A.
(c) Plan.

Include six major dimensions.

(30 marks)

Question TWO

(a)   Figure 2 shows a ball-pein hammer. Draw the hammer in FREE HAND.   **(8 marks)**

(b)   Write down the abbreviations of the following engineering terms:

(i)   Counterbore
(ii)   Spot face
(iii)   Undercut
(iv)   Centre line
(v)   Countersink
(vi)   Pitch circle diameter
(vii)   Across flats
(viii)   Chamfer

(4 marks)

(c)   Sketch convectional representation of the following:

(i)   External threads
(ii)   Tension spring
(iii)   Starter

(3 marks)

Question THREE

Figure 3 shows an unfinished elevation of a truncated, hexagonal based pyramid. Draw:

(a)   A complete elevation and plan
(b)   True shape of the truncated surface
(c)   The surface development

(15 marks)

Question FOUR

Figure 4 shows two views of a block. Draw an isometric of the block taking P as the lowest point.

(15 marks)

Question FIVE

(a)   Draw an internal tangent to two unequal circles of diameter 65mm and 38mm respectively whose distance between centres is 120mm.   **(5 marks)**

(b)   Figure 3 shows a template for a gasket. Construct the template to full scale showing the method of blending the lines.   **(10 marks)**