MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2014/2015

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN BUILDING CONSTRUCTION TECHNOLOGY

BCE BT: 115 ENGINEERING DRAWING II

DATE: 10/4/2015 **TIME: 2:00 – 4:00 pm**

Instructions

- ***You should have the following for this examination***
- ***Drawing paper size A2***
- ***Drawing instruments***
- ***Question one is compulsory and carries 30 marks***
- ***Answer any other two questions which carry 20 marks each.***
- ***Maximum marks for each part of a question are as shown***
- ***All measurements are in millimeters***
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1. A) Construct a rectangle 55 x 25 mm hence construct a square equal in area to the rectangle. (10 marks)

   b) Draw a triangle ABC with AB = 55mm, BC = 65mm, and AC = 75mm. Hence inscribe a circle in the triangle. (10 marks)

   c) Fig. 1 shows a pictoriall drawing of a joint. Draw full size, in first angle projections the following views:-

   i) A front elevation in the direction of arrow F.

   ii) A plan in the direction of arrow P

   iii) An end elevation in the direction of arrow E (10 marks)

2. Construct an ellipse using the rectangular method with sides 100 mm and 50 mm respectively

(20 marks)

3. A) Draw the involute of a circle with a radius of 20 mm (10 marks)
   b) Construct a cycloid from the bottom of a wheel to cover the whole circumference.
   (10 marks)
4. Fig 2 shows a crank BC which rotates about a fixed centre C. A rod AB is pin-jointed to the crank at B and is freely guided at end A. Draw the locus of a point P and AB for one revolution of the crank. (20 marks)
5. Make freehand sketches of the following tools.
   a) Mason's hammer
   b) Trowel
   c) Plumb –bob
   d) Builder's square
   e) Club hammer (20 marks)