



# MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING  
FIRST YEAR SECOND SEMESTER EXAMINATION FOR  
1704/103D: CERTIFICATE IN BUILDING TECHNOLOGY

1305/312: CERTIFICATE IN PLUMBING

TECHNICAL DRAWING

DATE: 24/4/2019

TIME: 11.30-2.30 PM

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## INSTRUCTIONS

*Answer all the five questions*

*Maximum marks for each part are as indicated*

1.
  - a) Fig 5 a shows a rectangle of sides 65mm and 38mm. copy the rectangle and convert it into a square of equivalent area using geometrical method. (5 marks)
  - b) Construct a regular pentagon of sides 42mm. (5 marks)
  - c) Fig 5b shows the layout of a crank mechanism in which OB rotates about O and A slides as shown. Draw the locus of point C for one revolution of the crank pin. (10 marks)
2. Fig 6 shows orthographic views of a block. Assemble the views and draw in isometric projection, making corner C the lowest point. (20 marks)
3. Fig 7 shows a pictorial view of a cast iron block. Draw the following views in FIRST ANGLE projection;
  - a) A front elevation in the direction of arrow F,
  - b) Right end elevation,
  - c) Plan (20 marks)

4. Fig 9 shows a pictorial view of a machine part. Draw the following views in **THIRD ANGLE** projection;
- a) Front elevation in the direction of arrow “F”
  - b) End elevation in the direction of arrow “E”
  - c) Plan (20 marks)
5. Fig 8 shows two views of a wooden block and its perspective layout. Copy the given layout and draw the block in one point perspective. (20 marks)