MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FIRST YEAR SEMESTER TWO EXAMINATION FOR CRAFT

CERTIFICATE IN BULDING TECHNOLOTY MODULE ONE

1704/103 BULDING CONSTRUCTION 1 AND DRAWING

DATE: 17/4/2019 **TIME: 2:30 – 5:30**

INSTRUCTIONS:

You should have the following for this examination:

- **Answer booklet**
- **Scientific Calculator /Mathematical table**
- **Drawing instruments**

This paper consists of Eight Questions in TWO Sections A and B

- **Answer FIVE questions choosing TWO questions from section A,TWO questions from section B and ONE question from either sections**
- **All questions carry equal marks**
- **Maximum marks for each part of questions are shown**
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SECTION A: Answer at least TWO questions from this section

1. a) i) Compare and contrast environmental considerations in relation to a building location (5 marks)

   ii) Briefly describe the evolution of the built environment (5 marks)

   b) With well labeled sketches, show the detail of the following types of foundations

   i) Traditional strip foundation (5 marks)

   ii) Wide strip foundation. (5 marks)

2. a) List four functional requirements of a good foundation (8 marks)

b) With the aid of neat sketches, differentiate between a brick wall in Flemish and English bonds (12 marks)

3. a) State five functions of a wall (10 marks)

b) Explain the following terms as applied to walls:

i) Plastering and Rendering (4 marks)

ii) Pointing and jointing (4 marks)

c) Briefly explain the term "Settlement" (2 marks)

4. a) List Four Functions of hardcore under a floor stab

b) Make neat sketches of the following types of single roofs (16 marks)

i) lean to roof

ii) couple roof

iii) closed couple roof

iv) collar roof

SECTION B TECHNICAL DRAWING

5. a) Draw a rectangle of sides 65mm and 38mm 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 5 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)

6. Fig 6 shows orthographic views of a block. Assemble the views and draw in isometric projection , making corner **C** the lowest point. (20 marks)

7. Fig 7 shows a pictorial view of a cast iron block. Draw the following views in **FIRST ANGLE** projection;

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

ii) Right end elevation,

iii) Plan **.** (20 marks)

8. 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)