MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

DIPLOMA IN BUILDING TECHNOLOGY

2705/105 BUILDING CONSTRUCTION 1

DATE: **TIME:**

INSTRUCTIONS:

You should have the following for this examination:

-drawing paper size A3

-Scientific calculator

This paper consists of Eight questions in THREE Sections A, B and C.

Answer TWO questions in section A, TWO QUESTIONS in section B and ONE question in section C.

ALL questions carry equal marks

Marks for each part of a question are indicated.

SECTION A: BUILDING CONSTRUCTION 1.

Answer any TWO questions from this section.

1. a) State;
   i) Five items that may be considered in site clearance. (5 marks)
   ii) TWO methods of clearing a construction site. (2 marks)

   b) Figure 1 below shows a sloping site.

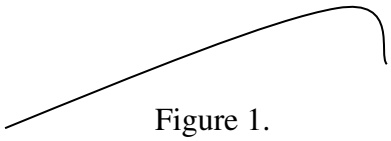


Figure 1.

i) Describe TWO methods of achieving a level foundation trench. (4 marks)
ii) State the most economical foundation that may be used in this situation. (1 mark)

c) State TWO functional requirements of a good foundation. (4 marks)
d) Sketch and label a traditional strip foundation. (4 marks)

2. a) Describe any FOUR forms of wall construction. (10 marks)
b) Differentiate between a D. P. C and a D. P. M. (5 marks)
c) Differentiate between a door frame and a door lining. (5 marks)

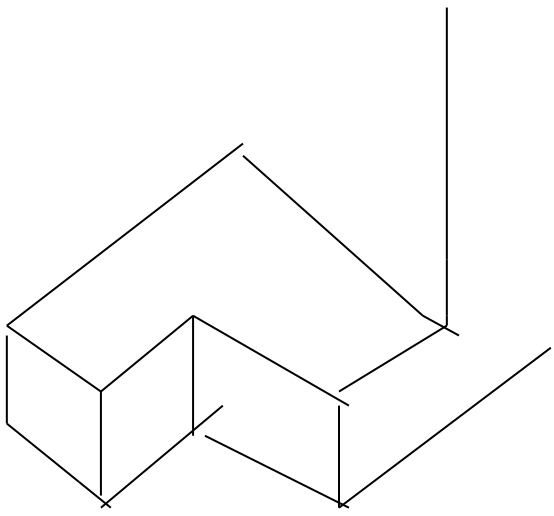
3. a) Make neat sketches of any TWO types of match-boarded doors naming all the members. (10 marks)
b) Make a neat sketch of a door frame of a door frame and name all the parts. (5 marks)
c) Briefly outline the evolution of the built environment

SECTION B: TECHNICAL DRAWING.

Answer any TWO questions from this section.

4. The pictorial drawing indicates the shape of a component with a single view using 1st angle projection. From fig 1,
Draw:
i) The front elevation.
ii) The plan.
iii) The left end elevation
iv) The right end elevation. (20 marks)

5. Fig 2 shows front elevation and plan of a machine mounting block. Using free hand, sketch an isometric view of the mounting.



6. a) Construct an angle of 60 degrees on a line 75mm long. (10 marks)

b) Print the following paragraph applying lower case. (10 marks)

"Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing. It should also be apparent that all questions are printed in English

SECTION C: CONSTRUCTION PLANT

Answer ONE question from this section.

7. a) State FIVE factors affecting the selection of excavation plants. (5 marks)

b) Describe the following excavating plants

i) Drag line
ii) Face shovel

c) Explain the MAIN function of transporting plant in construction site. (3 marks)

d) List FOUR types of transporting equipment in the construction industry.

(2 marks)

8. a) Outline THREE types of plant maintenance. (9 marks)

b) State FIVE reasons for using plant in the construction industry. (5 marks)

c) Sketch the arrangement of wheels in pneumatic rollers. (2 marks)

i) Briefly explain the operation and features of the roller in (C) above. (2 marks)
ii) State any two situations where the pneumatic roller is used. (2 marks)