MACHAKOS UNIVERSITY COLLEGE

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

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

EXAMINATION FOR CERTIFICATE IN CONSTRUCTION TECHNOLOGY

BCE BT 108: BUILDING TECHNOLOGY

DATE: 2/4/2015   **TIME: 3 HRS**

Instructions

- *This paper consists of (5) five questions*
- *Answer questions one (compulsory) and any other two questions*

1. a) Define the following terms as applies to buildings.

   i) Foundation's

   ii) Load bearing capacity   (6 marks)

   b) Explain the importance of bonding in walls.   (2 marks)

   ii) With aid of a neat labeled sketch. Show the details of the ground floor slab at an internal non-load bearing wall.   (8 marks)

   c) Outline the procedure of setting out a simple rectangle house   (6 marks)

   ii) With the aid of neat sketches, show four methods of providing barriers to trench excavation.   (8 marks)

2. a) Draw an unbounded plan of a one brick return wall and show the plan of 1st and 2nd course in English bond.   (15 marks)

   i) Describe the wet process of manufacturing Portland cement.   (3 marks)

   b) Define the term timbering   (2 marks)

3. a) With aid of neat sketches, show five types of finishes applied to brick joints   (5 marks)

ii)   Identify four factors which determine the amount of timbering required in an excavation.   (4 marks)

b) Enumerate four properties of an ideal dump proofing material   (4 marks)

i) With the aid of a neat well labeled sketch illustrate a corner profile board.   (7 marks)

4. a) State and explain the purpose of the following components in a ground floor construction

    i)   Handcore

    ii)   Blinding

    iii)   Damp proof membrane (DPC)   (9 marks)

    b) State and explain four functional requirements of a wall.   (4 marks)

    c) With the aid of a neat lebelled sketch, show a suitable timbering in dry loose soil

                                                                            (7 marks)

5. a) With aid of neat well labeled sketches show five types of finishes that are applied to brick joints   (5 marks)

    ii) State the purpose of using damp proof membrane when building or walling above the foundations   (4 marks)

    b) i) Explain the use of telescope in leveling   (2 marks)

    ii) State the main function of a wall plate and how it is fixed to the wall.

    c) Explain how the (3:4:5) method is used in establishing squareness in building foundation walling   (5 marks)