



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2015/2016

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

Second Semester Examination for:

2705/303: Diploma in Building Technology

BUILDING TECHNOLOGY

Date: --/7/2016

Time: 8:30 -10:30 am

Instructions:

*This paper consists of **Eight** questions*

*Answer any **Two** questions from section A, **Two** questions from section B and **One** question from section C*

SECTION A : BUILDING TECHNOLOGY

Answer any two questions from this section

1.
 - a) State any functions of cladding on high rise buildings. (6 marks)
 - b) Sketch a section showing all the details of a storey height precast concrete cladding. (6 marks)
 - c) State four requirements of cladding joints. (4 marks)
 - d) Explain the term "fir load" (4 marks)
 - e) State five reasons for using suspended ceilings as a building finish. (5 marks)

2.
 - a) Briefly describe the surface preparation of a concrete structure to receive a plaster finish. (4 marks)
 - b) With aid of a diagram explain the construction of the following:
 - (i) Timber Skirting
 - (ii) Terrazzo Skirting
 - (iii) Tile Skirting (9 marks)
 - c) List any four functions of internal plaster. (2 marks)
 - d) Briefly explain how plastering is applied on wall surfaces. (5 marks)
 - e) List five functions required for timber doors. (5 marks)

- 3.

- a) Differentiate between pointing and jointing in brickwork. (4 marks)
- b) State six factors to be considered when selecting floor finishes. (6 marks)
- c) Sketch a section through a suspended ceiling along a perimeter wall showing the details at the support. (5 marks)
- d) Outline the terrazzo laying procedure. (10 marks)

SECTION B : BUILDING DRAWING

Answer any two questions from this section

- 4. Figure 1 shows the elevation of a pitched roof covered with clay tiles to a scale of 1:10 draw and label the details at:
 - a) joint marked A (8 marks)
 - b) joint marked B (7 marks)

- 5. sketch a vertical section and elevation to show a block wall finished with vertical timber cladding (feather edge boards) (15 marks)

- 6. sketch and label a section through a suspended timber ground floor (15 marks)

SECTION C : SERVICES

Answer ONE question from this section

- 7.
 - a) Define the following terms used in storm water drainage:-
 - (i) Rainfall Intensity in mm/hr.
 - (ii) Surface Run-off in l/s/m²
 - (iii)Hydraulic mean depth in mm. (6 marks)
 - b) To a suitable scale, draw a fully labeled and dimensioned section through an estate road showing a suitable method of surface water disposals (10 marks)
 - c) Using a rainfall intensity of 75mm/hr. and assuming 0% permeability calculate:-
 - (i) Volume run-off on 1 m²/hr in m³
 - (ii) Volume run-off on 1 m² in l/s (4 marks)

8.

a) Define the following terms:-

- (i) Flammable
- (ii) Inflammable
- (iii) Non-flammable
- (iv) Incombustible

(4 marks)

b) With aid of sketches explain the combustion triangle

(6 marks)

c) Define the following terms used in relation to fire resistance:-

- (i) Integrity
- (ii) Stability
- (iii) Insulation

(3 marks)

d) With aid of sketches explain the sprinkler installation system:-

(7 marks)

