



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

UNIVERSITY EXAMINATIONS
2013/2014 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER EXAMINATIONS

FOR THE DEGREE OF
BACHELOR OF SCIENCE IN CIVIL AND STRUCTURAL
ENGINEERING

COURSE CODE: CSE 101

COURSE TITLE: INTRODUCTION TO CIVIL & STRUCTURAL
ENGINEERING I

DATE:

TIME: 3 HOURS

INSTRUCTIONS:

1. Answer any **FIVE** questions. All questions carry equal marks.
2. Provide neat sketches and diagrams where required.

QUESTIONS:

1. (a) Discuss the history of the development of civil engineering under the following headings:
 - (i) Road Development
 - (ii) Building Development
 - (iii) Water Development

(9 marks)

(b) Describe the role a Civil Engineer is expected to play in a modern society in order to meet the 21st century civil engineering demands. *(5 marks)*
 2. (a) Write short notes on the following terms as applied to civil and structural engineering projects:
 - (i) Planning
 - (ii) Reconnaissance
 - (iii) Feasibility study
 - (iv) Preliminary design
 - (v) Final design

(10 marks)

(b) Explain the term ‘Professional Engineer’ from a Kenyan context. *(4 marks)*
 3. (a) In the construction of a large civil engineering project such as the expansion of JKIA, several engineering disciplines are involved. Discuss these disciplines and highlight their importance to the project. *(10 marks)*

(b) Discuss the role of a Civil and Structural Engineer as a Project Manager in a construction site. *(4 marks)*
 4. (a) Discuss the main contract documents normally applied in the implementation of civil engineering projects. *(9 marks)*

(b) State the institutions and regulatory bodies involved in the implementation of civil and structural engineering projects in Kenya? *(5 marks)*
 5. (a) Enumerate the core areas of civil engineering. Give two examples of some existing projects in Kenya for each of the areas. *(9 marks)*

(b) List TEN infrastructure developments that are necessary for the economic growth of a country. *(5 marks)*
 6. (a) As a civil engineer you have been assigned the task of designing a new rural Class D road in Western Kenya. Write a brief of the various processes that you would undertake and the kind of information you will look for. *(8 marks)*

(b) Outline the processes involved in a project life cycle. *(6 marks)*
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