

**MURANG’A UNIVERSITY OF TECHNOLOGY**

**SCHOOL OF ENGINEERING AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS FOR THE DEGREE OF SCIENCE IN:**

**BUILDING CONSTRUCTION AND MANAGEMENT**

**2ND YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR**

**CENTRE: MAIN CAMPUS**

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**COURSE CODE: TLM 3216**

**COURSE TITLE: CIVIL ENGINEERING CONSTRUCTION I**

**EXAM VENUE: W/S STREAM: BSc IN CONSTRUCTION**

**DATE: 27/4/17 EXAM SESSION: 2.00 – 4.00 PM**

**TIME: 2 HOURS**

**Instructions**

1. **Answer Question 1 (compulsory) and ANY other two questions**
2. **Candidates are advised not to write on question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

**QUESTION ONE (30 marks)**

Construction Industry has been an important sector of the world economy.

1. Explain the five major stages involved in Civil engineering construction process clearly stating the players involved – 10marks
2. Describe any 5 types of Contracts commonly used in the construction industry – 10mks
3. Health & Safety is a fundamental in construction management. Explain the role of a construction manager in achieving this. - 6mks
4. Briefly discuss any **four** major excavation equipment used in road construction 4mks

**QUESTION TWO (20 marks)**

1. Rocks have several applications in Civil engineering construction projects. Explain the three wide classification of rocks, giving an example. 6marks
2. Define retaining walls and briefly explain three common types of retaining walls using aid of diagrams. 8marks
3. The design and construction of Reinforced Concrete Water storage tanks requires special considerations
   1. State these conditions 2marks
   2. Discuss the measures to be taken to achieve the above conditions 6marks

**QUESTION THREE (20 marks)**

Reinforced Concrete is an important composite material used in most Civil Engineering Construction.

1. Explain any 4 advantages of Reinforced Concrete and 2 of its disadvantages – . 8marks
2. With the aid of diagrams, differentiate between Over-reinforced and under-reinforced concrete. 6marks
3. Discuss any 4common factors affecting failures in Reinforced Concrete. . 6marks

**QUESTION FOUR (20 marks)**

Project management is distinct from general management. As a Project manager, discuss the following:

1. The role of Project manager.
2. Project planning
3. Leadership
4. Cost Control 20marks

**QUESTION FIVE (20 marks)**

1. Define the terms ***foundation*** and ***foundation failure*** as used in civil engineering construction. 4marks
2. Outline the three steps of foundation design 6mks
3. With the aid of well-labelled diagrams, differentiate Isolated footing, combined footing, mat (raft) footing and wall footing 4marks
4. With the aid of sketch, Define pile foundation and state conditions under while pile foundation can be used 6marks