



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

FIRST SEMESTER EXAMINATION FOR DIPLOMA IN CIVIL ENGINEERING

BCECD303: SOIL MECHANICS II

Date: 18/4/2016

Time: 2:00-4:00 pm

Instructions:

- This paper comprises of **five** questions
- Question **one** is **compulsory** and carry 30 marks
- Answer any **other two** questions

- a) Briefly explain why it is necessary to carry out site investigations citing six reasons. (12 marks)
 - b) Describe briefly the role of desk studies, reconnaissance and sub-surface exploration in site explorations (12 marks)
 - c) In what ways does water added to a slope affect its stability? (6 marks)
- a) Discuss the major triggering events for mass movement processes. (10 marks)
 - b) Define the following
 - i. Angle of repose
 - ii. Sensitive soils
 - iii. Hydrocompacting clays
 - iv. Groundwater
 - v. quick clays (10 marks)
- a) Briefly explain five engineering techniques that can be used to prevent and mitigate against mass movement hazards (10 marks)
 - b) Briefly explain the aims of slope stability (10 marks)
4. Discuss the methods used in soil stabilization (20 marks)
5. Briefly describe the four classes of mass movement in natural and artificial slopes. (20 marks)