



TECHNICAL UNIVERSITY OF MOMBASA
FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:
BACHELOR OF SCIENCE IN CIVIL ENGINEERING
ECE 2509: ENGINEERING MANAGEMENT II
EXAMINATION
SERIES: sept. 2017
TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of five questions.

Answer question ONE (COMPULSORY) and any other TWO questions

Do not write on the question paper.

QUESTION ONE (COMPULSORY)

- a) i) Discuss the roles of the civil Engineer, structural engineer and the resident engineer in a construction project.
 ii) Outline the overall functions of professional bodies and the engineers Board of Kenya (E.B.K) in particular, in the construction industry (10marks)
- b) In the recent past the press has been awash with reports of collapsed buildings under construction, with attendant loss of lives. In such cases aspersions have generally been cast on the client and at times on the professional negligence on the the part of the structural engineers and often on the contractor.
- i) Discuss the probable causes of these structural failures and state who should rightly take the blame.
 ii) Outline measures to curtail these failures. (10marks)
- c) Outline Work study and discuss its application in the construction industry. (10marks)

ATTEMPT ANY TWO QUESTIONS

QUESTION TWO

Contrast the following work measurement methods for construction work, stating in each case the merits and the demerits of the method;

- i) Selective tendering.
ii) Package deal.
iii) Management contracting. (20marks)

QUESTION THREE

- a) Describe briefly the fundamental processes of Project management, and the role of the project manager. (8marks)
- b) Outline the following approaches as used in project management;
 - i) The critical chain project management.
 - ii) Agile project management
 - iii) The traditional approach. (12 marks)

QUESTION FOUR

- a) Explain the following terms as applied in contracts;
 - i) Without prejudice
 - ii) Defects liability period
 - iii) Privity of contract.
 - iv) subject to contract, (8marks)
- b) Discuss the basic requirements for making a valid contract. (7marks)
- c) What is the remedy to a party in event of breach? (5marks)

QUESTION FIVE

- a) Outline the work measurement procedure, (5marks)
- b) Explain the following work measurement terms;
 - i) Rating,
 - ii) performance rating,
 - iii) basic times,
 - iv) Standard time. (6marks)
- c) The following observations were tabulated by a work study officer. Compute the standard times for carrying out the various activities. Assume any necessary data not provided.

activity	Observed time (min.)	Observed rating.
Operation manual concrete mixing		
Volume batching c. aggr	3.0	90
Volume batching sand	2.0	80
cement	1.0	100
Pour water	0.5	100
Manual mixing 4 lab,	6.0	120
Load wheelbarrow	1.5	90
Transport concrete (30m)	3.0	90
Pour concrete	0.3	110
Vibrate concrete	1.5	110
Start 8.00am		
Stop 8.20 am		