



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT BUILDING AND CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR:

BSC IN CIVIL ENGINEERING

ECE 2501: ENGINEERING MANAGEMENT I

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2HOURS

DATE: 9 May 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, Drawing Instruments, Scientific calculator, examination pass and student ID

This paper consists of five questions. Attempt question ONE (Compulsory) and any other TWO questions.

Answer question ONE, compulsory, and any other TWO questions.

Question ONE,

- a) outline the functions of the following parties in construction;
 - i) project manager
 - ii) Civil engineer. (8marks)
- b) "A civil engineer should be professionally above board with specific reference to work ethics," Discuss. (6marks)
- c) Discuss the significance of work study in construction work. (8 marks)
- d) Specify the remedies available to a party in a breach of contract. (8 marks)

QUESTION TWO

- a) Outline the work measurement procedure and state its application in the construction industry. (5marks)

- b) Explain the concept of rating and outline the following rating scales; i) 60/80, ii) 100/133. (5marks)
- c) The following workmeasurement observations were made in the field. Compute the standard times for all the activities;

Work measurement exercise; Fitting panels

Item description	Observed time (min.)	Rating
1) Collect tools, prep, and clear away	4.5	80
2) Collect panels	6.5	75
3 Fit sling	0.8	125
4) Hoist and guide panels	7.5	90
5) Hold panels and tighten clips	3.2	100
6) Admire scenery.	1.5	-
7) Transfer tackle	4.5	125

Start time 0.00

Stop time 0.30

QUESTION THREE

- a) Outline the main project management processes. (10 marks)
- b) Discuss the following project management approaches;
- i) Agile,
 - ii) Traditional,
 - iii) Critical chain project management. (10 marks)

QUESTION FOUR

- a) Explain the following terms as applied in contract law;
- i) Invitation to treat,
 - ii) Privy of contract,
 - iii) Counter offer,
 - iv) Rescission. (6marks)
- b) Discuss the necessary requirements for the validity of a contract. (8 marks)
- c) Draw out a typical contract for a building project. (show the essentials of the contract only.) (6 marks)

QUESTION FIVE

- a) Outline the following methods of tendering stating their merits and demerits.
 - i) Negotiated contracts,
 - ii) Turnkey projects,
 - iii) Serial contracting. (12 marks)

- b) Outline the main stages of method study. (8marks)