



TECHNICAL UNIVERSITY OF MOMBASA  
**Faculty of Engineering &  
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR DECREE IN:

**BACHELOR OF SCIENCE IN CIVIL ENGINEERING (BSCE)**

ECE 2509: ENGINEERING MANAGEMENT II

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: JUNE 2015**

**TIME ALLOWED: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Answer question **ONE (COMPULSORY)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

Use neat, large and well labeled diagrams where required

This paper consists of **TWO** printed pages

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**Question One (Compulsory)**

- a) Outline the objective and the main functions of work study **(8 marks)**
- b) Discuss the significance of ethical approaches in procurement of work **(6 marks)**
- c) Outline the regulations role of the local authority in the construction industry as dictated by the building code. **(5 marks)**
- d) Explain why it has become prudent to introduce new tendering techniques like management contracting and project management in the construction industry **(4 marks)**
- e) Discuss the functions of the following professional bodies in the construction industry:
  - (i) A.A.K

- (ii) A.A.K
- (iii) Quantity surveyors chapter

### Question Two

- a) Explain what constitutes feasibility studies (4 marks)
- b) Outline FIVE main components of feasibility studies (4 marks)
- c) Outline the process of project management under the following headings:
  - (i) Initiation
  - (ii) Planning and design
  - (iii) Implementing execution
  - (iv) Monitoring and control
  - (v) Closing(12 marks)

### Question Three

- a) Design and build contract and currently considered in vogue in the construction industry. Discuss the main thrust of these methods of procurement of work and their merits and demerits. (8 marks)
- b) Outline the following methods of tendering stating the merits and demerits of each:
  - (i) Open tendering
  - (ii) Serial contracting
  - (iii) Selected contracts(12 marks)

### Question Four

- a) Discuss the essence of work measurement and outline its various stages (6 marks)
- b) Explain the following terms as applied in work measurement:
  - (i) Standard rating
  - (ii) Basic time
  - (iii) Standard time
  - (iv) Synthetic estimating(8 marks)
- c) Outline the various factors which could influence the observed time (6 marks)

### Question Five

- a) Outline the main requirements of a contract to be valid (6 marks)
- b) Explain the negotiated form of contract and with aid of hypothetical examples outline the following contracts used in the following contracts used in the system:
  - (i) Cost plus contract
  - (ii) Cost plus fixed fee
  - (iii) Target cost plus variable fee(14 marks)