



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN ELECTRICAL & ELECTRONIC ENGINEERING

EEP2309 : ESTIMATING, TENDERING & ENGINEERING SERVICES

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2024

TIME: 2 HOURS

DATE: AUGUST 2024

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of FIVE questions. Attempt **ANY THREE Questions**

Do not write on the question paper.

Question ONE

- (a) State THREE
 - (i) Factors considered when preparing an estimate
 - (ii) Documents that should accompany a detailed estimate (6marks)
- (b) Describe TWO methods of work measurement for electrical engineering work (4marks)
- (c) (i) State THREE methods of 'taking off' materials from electrical design drawings
- (ii) Explain the need of examining a Bill of Quantities against design drawings (6marks)
- (d) State FOUR ways in which tendering procedures can be abused (4marks)

Question TWO

- (a) Explain the following classes of contracts
 - (i) Contracts Uberrimae Fidei
 - (ii) Unilateral and Bilateral contracts (6marks)
- (b) In relation to the law of contract, explain:
 - (i) Two points of distinction between fraudulent misrepresentation and innocent misrepresentation

- (ii) Two points of distinction between specialty contract and simple contract (8marks)
- (c) In relation to the law of torts, outline:
 - (i) Three elements of the tort of negligence
 - (ii) Three conditions that must be satisfied before the courts can apply the doctrine of Res ipsa loquito (6marks)

Question THREE

- a) Describe the various steps required in the planning process (10marks)
- b) Explain the purpose of a bar chart in projects management (2marks)
- c) (i) Describe the “line of Balance” method in project management
(ii) explain in which condition the Line of Balance may be preferred over PERT or CPM. (8marks)

Question FOUR

- a) Explain how tender is beneficial to both the buyer and supplier. (6marks)
- b) Enumerate and explain the basic requirements for eligibility to tender for an advertised government contract (8marks)
- c) Outline the various electrician license classes required for a given electrical installation (6marks)

Question FIVE

- a) Explain the THREE primary sources and TWO secondary sources of law (8marks)
- b) Discuss the purpose of law in society (6marks)
- c) Explain the roles played by the following in an engineering project:-
 - (i) The Architect
 - (ii) Electrical Technician
 - (iii) Clerk of works (6marks)