



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

CERTIFICATE IN ELECTRICAL ENGINEERING

EPC: 218 ELECTRICAL DESIGN ESTIMATING AND TENDERING

DATE: 22/01/2021

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer Question One and any Other Two Questions

SECTION A: COMPULSORY QUESTION.

1. a) State any three essentials of a valid contract . (3 marks)
- b) i Define the term contract (2 marks)
ii Outline the procedure of taking –off materials from architectural drawings (7 marks)
- c) Explain the following methods of discharging a contract
i. Breach of contract
ii. By performance (4 marks)
- d) Explain the following types of tenders;
i. Negotiated tendering
ii. Competitive tendering (4 marks)
- e) explain the roles of the following as team members for a building contract ;
i. clerk of works
ii. the quantity surveyor
iii. the architect. (6 marks)
- f) state the following;

- i. any four tender documents for a proposed contract. (2 marks)
- ii. State the primary function of an estimate (2 marks)

SECTION B: ATTEMPT ANY TWO QUESTIONS.

2.
 - a)
 - i Define the term 'Estimating' as applied in contracts. (2 marks)
 - ii state any three duties of a site agent as a team member in a building contract. (3 marks)
 - b)
 - i Explain two secondary functions of an estimate. (4 marks)
 - ii State any three disadvantages of material listing as a scheduling method of the tendering process. (3 marks)
 - c) Explain the following terms with regard to tendering process ;
 - i. Material listing
 - ii. work scheduling (4 marks)
 - d) Explain the following types of tenders
 - i. selective tendering
 - ii. serial tendering. (4 marks)
3.
 - a) state the following;
 - i. any three general rules as requirements for the standard method of measurement
 - ii. any two causes for the wide differences between the number of tenders submitted for a proposed electrical work. (5 marks)
 - b) Define the following terms used in tendering;
 - i. Provisional sum
 - ii. Prime cost sum (4 marks)
 - c) Explain the following remedies entitled to an aggrieved party under the law of contract
 - i. Damages
 - ii. Injunction (4 marks)
 - d)
 - i State the sequence of an estimating process. (5 marks)
 - ii define the term 'representation 'with regard to a contract. (2 marks)
4.
 - a) State any three requirements of a good estimator in electrical works. (3 marks)

- b) Explain the following types of estimates;
 - i. Lump sum
 - ii. Bill of quantities (4 marks)
 - c) Distinguish between an express and implied contract (4 marks)
 - d) i State any three circumstances under which an injured party in a breach of contract loses the right to remedy. (3 marks)
 - ii Define the term 'consideration' with regard to a contract. (2 marks)
 - e) Explain the following ways in which a contract may be discharged by agreement;
 - i. Novation
 - ii. waiver. (4 marks)
- 5.
- a) Explain the following remedies for breach of contract
 - i. Quantum Meruit
 - ii. Rescission. (4 marks)
 - b) State four circumstances capable of termination of an offer . (4 marks)
 - c) Explain the following types of bills of quantities
 - i. Trade bills
 - ii. Elemental bills (4 marks)
 - d) Distinguish between a single and standing offer. (4 marks)
 - e) Explain the following with regard to the law of contract;
 - i. Invitation to treat.
 - ii. Liquidated damages. (4 marks)