



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

CERTIFICATE IN ELECTRICAL ENGINEERING INSTALLATION

EPC 218: ELECTRICAL DESIGN ESTIMATING AND TENDERING

DATE: 21/10/2020

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer Question One and any Other Two Questions

QUESTION ONE (30 MARKS)

- 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)

QUESTION TWO (20 MARKS)

- 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)

QUESTION THREE (20 MARKS)

- 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)

QUESTION FOUR (20 MARKS)

- 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 losses 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)

QUESTION FIVE (20 MARKS)

- 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)