



MACHAKOS UNIVERSITY

University Examinations for 2020/2021

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

SECOND YEAR SECOND TERM FOR

DIPLOMA IN BUILDING TECHNOLOGY

ESTIMATING AND COSTING

DATE:

TIME:

INSTRUCTIONS TO CANDIDATES

ANSWER ALL QUESTIONS

1. a) Define the following terms giving one component of each
 - i) Unit rate
 - ii) All-in labour rate
 - iii) Man hour
 - iv) All in mechanical

(12 marks)
- b) List four sources of cost information

(8 marks)
2. a) Outline six roles of an estimator in a construction site

(12 marks)
- b) Describe the following methods of appropriate estimating giving two merits and two demerit of each method
 - i) Functional method
 - ii) Cubed method
 - iii) Superficial method

(18 marks)

3. a) Distinguish between the following labour costs to the contractor, stating two examples in each case
- i) Direct labour
 - ii) Indirect labour (6 marks)
- b) Outline the any five reasons for contractors quoting different prices for similar items/projects (14marks)
4. Using the following data, build up a unit rate for 215mm thick brick wall cement/ sand mortar (1:4) per M²
- Data:
- Skilled labour per hour-70/=
 - Unskilled labour per hour-35/=
 - Brick size 215x102.5x65mm-7/=
 - Cement per 50kg bag-750/=
 - Sand per tonne-110/=
 - Density of cement-1442k/m³
 - Density of sand -1600kg/m³
 - Cost of materials inclusive of transport to site
 - Unloading of 1000 bricks-3 unskilled hours
 - Overheads and profits
 - Make reasonable assumptions (20 marks)
5. a) With illustrations, explain the following payment certificates
- i) Interim payment certificate
 - ii) Penultimate certificate
 - iii) Final certificate (12 marks)
- b) Give six roles of a subcontractor (6 marks)
- c) Give two roles of a supplier (2 marks)

