(*University of Choice*)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR

FOURTH YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE
OF
BACHELOR OF TECHNOLOGY EDUCATION
(CIVIL AND STRUCTURAL ENGINEERING)

COURSE CODE: TEB 463

COURSE TITLE: QUANTITY SURVEYING I

DATE: TUESDAY 14ᵀᴴ January 2020 TIME: 8.00—10.00AM

INSTRUCTIONS:
1. This paper contains FIVE Questions
2. Answer Question ONE and any other TWO Questions
3. Marks for each question are indicated in the parenthesis.
4. It is in the best interest of the student to write legibly
5. Examination duration is **2 Hours**

MMUST observes ZERO tolerance to examination cheating
This Paper Consists of 4 Printed Pages. Please Turn Over.

QUESTION ONE (COMPULSORY -40MKS)
a) Give a brief historical back ground on how the field of quantity surveying was developed into a profession in construction industry.   **(6marks)**

b) Distinguish between the roles of client's and contractor's quantity surveyors **(6marks)**
c) Clearly outline the process for formation of a building contract   **(4marks)**

d) Explain the applicable taxes for construction project works in Kenya **(4marks)**

e) Define the term bills of quantities and state its purpose in construction industry.
                                                                    (6marks)
f) Explain the following parts of the bills of quantities
i)	Preliminaries	**(3marks)**
ii)	Prime cost and provisional sums	**(3marks)**
iii)	Preamble clauses	**(3marks)**

g) Describe the process of preparing the Bills of quantities using tradition method.
                                                                    (6marks)
h) Define the term specifications. Give an account of General and detailed specifications
        (5marks)

Attempt ANY 2 Questions from this section (30MKS)
QUESTION TWO
a) Define the term 'tendering' and state methods used in tendering **(4marks)**
b) It is essential to carry out cost-estimating before the proposed structure (project) is implemented. Justify this statement and describe the two types of estimates in construction industry.   **(6marks)**
c) Taking-off is a common term in quantity survey, explain its meaning. Distinguish between the trade method and group method used in taking-off.   **(5marks)**

QUESTION THREE
One of the projects in the Economic stimulus in Westland Constituency is a model school for the Deaf budgeted to cost 40 million when complete. The contract period is estimated as 15 months, excluding defects liability period of six (6) months and final payment 2 months after the defects liability period. If the valuations per respective months are as tabulated below and retention percentage is 10%, draw out the valuation certificate for the whole 23 months period. **(15marks)**

VALUATION SCHEDULE

MONTH	AMOUNT (KSHS)
1	1,000,000
2	2,000,000
3	3,0000,000
4	600,000
5	1,400,000
6	2,400,000
7	1,600,000
8	4,000,000
9	1,800,000
10	2,200,000
11	1,600,000
12	4,400,000
13	3,000,000
14	6,000,000
15	5,000,000
TOTAL	**40,000,000**

TABLE Q.3

QUESTION FOUR

Determine the material quantities and the cost of a substructure for Mr. Were measuring
9.0m x 7.2m internally. **(15marks)**

Specifications

- The foundation is concrete strip 600m x 200mm (1:3:6)

- Foundation wall is dressed quarry stones 250 x 300mm 1.0m deep from the stripped level.

- The hardcore is a well compacted layer of rough natural stones 300mm thick.

- The blinding of 50mm murram.

- DPM is 1000g polythene paper.

- Over site concrete is 150mm thick concrete mix (1:2:4)

Take

1. Ballast (1600kg/m³) @ Kshs.2,000/= per tone.

2. Sand (1450kg/m³) @ Kshs.800/= per tone

3. Hardcore (1500kg/m³) @ Kshs.600/= per tone.

4. Murram (1350kg/m³) @ Kshs.500/= per tone.

5.   Cement (37 litres/bag) @ Kshs.800/= per bag

6.   Water (litres) @ Kshs.1.0 per litre.

7.   Dressed stones (meters) Kshs.30 per meter

8.   Excavation

         i)   Stripping (150mm thick), 1 casual/m³ @ Kshs.100/= per m³

         ii)   Trench (1 casual/m³) @ Kshs.150/= per m³

9.   Water to cement ratio (1:2.5)

10.   30% for wastage, spillage and shrinkage

11.   Mortar (1:4) – taking 25% of the foundation wall

12.   Construction takes 18 days

         i)   6 casual @ Kshs.300/= per head per day.

         ii)   3 masons @ Kshs.500 per head per day

QUESTION FIVE
a) Explain the term valuation in a building contract. Prepare a diagrammatic presentation of valuation, certification and payment to a general contractor from pre-tender to defects repair periods. Assume 9 valuations during the contract periods.   **(4marks)**
b) Clearly outline the process of discharging of a building contract. **(4marks)**
c) Taking-off is a common term in quantity survey, explain its meaning.   Distinguish between the trade method and group method used in taking-off.   **(7marks)**