



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR**

SECOND YEAR SECOND SEMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF TECHNOLOGY EDUCATION
IN
BUILDING AND CIVIL ENGINEERING**

COURSE CODE: TEC 213

COURSE TITLE: WORKSHOP TECHNOLOGY

DATE: TUESDAY 3RD NOVEMBER 2020 TIME: 9.00 – 11.00 AM

INSTRUCTIONS:

1. Answer Question ONE and any other THREE Questions
2. Marks for each question are indicated in the parenthesis.
3. It is in the best interest of the student to write legibly
4. Examination duration is **2 Hours**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

QUESTION ONE

Make a proportional free hand drawing of the drilling machine shown in the diagram below and label all parts. (14 marks)

**QUESTION TWO (12 MARKS)**

Draw a proportional drill bit and label all the parts. (5 marks).

i). State the three uses of flutes as part of the drill bit. (3 marks)

ii). what do you understand by the following terms? (2 mark).

a). Cutting speed

b). Feed

iii). Given that the rpm of the drill spindle is 800.

Find the correct cutting speed of a drill bit with diameter of 7.0 mm. (2 marks)

QUESTION THREE (12 MARKS)

Explain the following terms as used in metal joining: (12 marks)

i) Soldering ii). Flux

iii) Tinning iv). spelter metal

v). brazing vi). Joint

QUESTION FOUR (12 MARKS)

- i).What do you understand by the term forging as used in metal work (1mark)
- ii). an anvil is an important forge work tool. Use a neat sketch to name its parts. (7 marks)
- iii). Draw and label the parts of a ball pain hammer as a tool used in forge work (4 marks)

QUESTION FIVE (12 MARKS)

- i). Using clearly labeled diagrams illustrate the following forge work processes (9marks)
 - a) Upsetting
 - b) Drawing
- ii).what do you understand by the term coolant? (1mark)
- iii). Mention two functions of cutting fluids (2 marks)