



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:
BACHELOR OF TECHNOLOGY CIVIL ENGINEERING

TMC 4102 : WORKSHOP TECHNOLOGY & PRACTICE I
SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2018

TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of five questions.

Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

QUESTION ONE (COMPULSORY) 20(Marks)

- a) State six causes of accidents in a metal work workshop (6 marks)
- b) Define the following terms as used in metal work
- i. elastic limit
 - ii. tensile strength
 - iii. melting point
 - iv. shear strength (4 marks)
- c) Sketch and label the parts of a dependent (put log) scaffold (6 marks)
- d) Differentiate
- i. welding from soldering
 - ii. brazing from forging (4marks)



ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO (20 Marks)

- a) Explain the following
- i. open die forging
 - ii. closed die forging
- (10 marks)
- b) With the aid of a diagram explain arc welding (10 marks)

QUESTION THREE (20 Marks)

- a) State the use of the following tools as used in wood work
- i. band saw
 - ii. electric sanders
 - iii. power screw driver
 - iv. percussion drill
- (4 marks)
- b) Outline the procedure of soldering two pieces of sheet metals (6 marks)
- c) State six characteristics of cast iron pipes (6 marks)
- d) Outline four qualities of a workshop supervisor (4 marks)

QUESTION FOUR (20 Marks)

- a) Sketch the following fasteners
- i. bolt
 - ii. screw
 - iii. stud
- (6 marks)
- b) Outline the procedure of treading steel pipe using a die-stock (7 marks)
- c) Outline the operations of lathe machine as used in wood work (7 marks)

QUESTION FIVE (20 Marks)

- a) State four advantages of brazing (4 marks)
- b) Induction course is mandatory to new employees in a workshop.
Explain the importance of the induction course (10 marks)
- c) State six qualities of wood preservative (6 marks)