



TECHNICAL UNIVERSITY OF MOMBASA
Faculty of Engineering & Technology
DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATIONS FOR DEGREE IN
BACHELOR OF SCIENCE IN CIVIL ENGINEERING

EMG 2106: WORKSHOP PRACTICE

END OF SEMESTER EXAMINATIONS

SERIES: APRIL 2015

TIME: 2 HOURS

INSTRUCTIONS:

- You should have: Answer booklet, scientific calculator and drawing instrument
- The paper consist of **FIVE** questions.
- Answer any **THREE** questions.

This paper consists of Two printed pages

QUESTION 1

- a) Distinguish between soft and hard wood and give atleast **TWO** examples of each. **(4 marks)**
- b) With the aid of a diagram describe the structure of a tree. **(10 marks)**
- c) Describe any **FOUR** characteristics of a good timber. **(6 marks)**

QUESTION 2

- a) Identify any **THREE** sources of water. **(3 marks)**
- b) Explain the **FOUR** methods employed to treat water. **(8 marks)**
- c) Briefly explain water distribution from the main to individual customers. **(7 marks)**
- d) List any **FOUR** measures that are taken to economize wastage of water. **(2 marks)**

QUESTION 3

- a) List any **FOUR** general causes of accidents in the workshop. (2 marks)
- b) Name the **TWO** acts of Parliament that regulates the safety, health, and environmental protection at work place. (2 marks)
- c) Explain the following with respect to safety health at workplace.
i) Dust and fumes
ii) Toxic substance
iii) Good house keeping
iv) Machines (10 marks)
- d) Outline the precautions related to fire that should be observed at workplaces. (6 marks)

QUESTION 4

- a) With the aid of a sketch explain the use of:
i) Vernier height gauge
ii) Hack saw
iii) Angle plate (12 marks)
- b) Show a reading of 15.28mm on a vernier height gauge. (2 marks)
- c) Briefly explain the following metal joining processes:
i) Soldering
ii) Brazing (6 marks)

QUESTION 5

- a) State kirchhoff's first and second law. (2 marks)
- b) In the circuit shown in Figure Q. 5 determine:
i) The current in each resistor
ii) The p.d across each resistor. (11 marks)
- c) i) Explain the basic construction of an off-hand grinding machine.
ii) List any **FOUR** applications of an-off-hand grinding machine. (7 marks)