



# MURANG'A UNIVERSITY COLLEGE

(A Constituent College of Jomo Kenyatta University of Agriculture and Technology)

DEPARTMENT: ELECTRICAL AND ELECTRONIC ENGINEERING

LEVEL: DIPLOMA  
CLASS: BCE/C/14DM  
TERM/SEMESTER: I  
ACADEMIC YEAR: 2014/2015  
UNIT: WORKSHOP TECHNOLOGY  
UNIT CODE: SEB1105

DATE: 24<sup>TH</sup> APRIL 2015

TIME: 2 HOURS

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## *Instructions to candidates*

This paper contains four (4) questions

Question 1 is CUMPULSORY

Answer ANY OTHER TWO questions

You should have the following for this examination;

- Drawing instruments
- Scientific calculator

Mobile Phones Not Allowed In Exam Room

- 1 a) State **four** major hazards which may arise from the use of electrical equipment. (4marks)
- b) List **four** ways in which accidents may be caused. (4 marks)
- c) State **six** precautions to be taken to avoid accidents when using machinery. (6 marks)

d) Describe three types of fire extinguishing medium and the types of fire for which each is best suited. (6 marks)

e) Describe

- i. Four physical properties of a material
- ii. Three mechanical properties of a material (10marks)

2a) State 2 factors to consider when choosing the method of joining metal parts (2 marks)

b) Outline three advantages of using adhesives in joining parts (3marks)

c) Describe five methods of joining parts together (15 marks)

3 a) Define corrosion

b) Outline three components of corrosive cells which causes electrochemical process (6 marks)

c) Describe different methods of protective coating (12 marks)

4a) Describe how the following workshop tools are used

- i. Bench vice
- ii. Cold chisel
- iii. Centre punch
- iv. Vernier calipers
- v. Screw drivers (10 marks)

b) Explain various steps into which a piece of project metal plate` undergoes up to drilling stage. (10marks)