



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
DIPLOMA IN BUILDING & CIVIL ENGINEERING (DBCE 13S)

EBC 2104: WORKSHOP TECHNOLOGY II

END OF SEMESTER EXAMINATION

SERIES: APRIL 2014

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer booklet*

This paper consists of **FIVE** questions. Answer any **THREE** questions of the **FIVE** questions

All questions carry equal marks

Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question One

- a) State FOUR areas where a plumber may be necessary in building industry. **(4 marks)**
- b) Describe the following types of pipes:
(i) Steel
(ii) Asbestos cement **(10 marks)**
- c) Sketch the following types of fittings:
(i) Female – female elbow
(ii) Pain nipple
(iii) Straight socket
(iv) Reducing socket
(v) Equal “T”
(vi) Reducing bush **(6 marks)**

Question Two

- a) Explain the process of threading a galvanized steel pipe using a die-stock. **(8 marks)**
- b) Sketch the FIVE types of ordinary traps. **(5 marks)**
- c) Define the following:
(i) Sewage
(ii) Sewerage
(iii) Separate drainage system
(iv) Cess pool **(4 marks)**
- d) State THREE safety care to observe in a plumbing workshop. **(3 marks)**

Question Three

- a) Explain the process of bending steel using the hydraulic bending machine. **(8 marks)**
- b) State FOUR requirements of a drainage system **(4 marks)**
- c) With the aid of a sketch, explain a combined drainage system **(8 marks)**

Question Four

- a) With the aid of a sketch, explain the operation of a two trap (siphonic) water closet (W.C) **(8 marks)**
- b) Explain the procedure of constructing a drainage line from the first inspection chamber to the first manhole (MH) **(8 marks)**
- c) Differentiate the following:
(i) Welding from soldering

(ii) Hacksaw from wheel cutter

(4 marks)

Question Five

a) Explain the following methods of testing welded joint:

(i) Magnetic particle

(ii) X- ray method

(8 marks)

b) With the aid of sketches, explain the process of joining two pieces of metal using oxy-acetylene welding.

(8 marks)

c) Sketch and label the parts of a single stack.

(4 marks)