



**TECHNICAL UNIVERSITY OF MOMBASA**

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FACULTY OF ENGINEERING AND TECHNOLOGY

**UNIVERSITY EXAMINATION FOR:**

CERTIFICATE IN BUILDING AND CIVIL ENGINEERING

EBC 1102: WORKSHOP TECHNOLOGY AND PRACTICE 1

**END OF SEMESTER EXAMINATIONS**

**Series:** APRIL 2019

**Time** 2 hours

**Instructions to candidates**

You should have the following for this examination

- Answer booklet
- Examination pass
- Student ID

This paper consists FIVE questions. Answer THREE questions

**DO NOT WRITE ON THE QUESTION PAPER**

**PAPER I**

**QUESTION ONE**

- a) Outline SIX main causes of accidents in workshops (6marks)
- b) Sketch the following hand tools and in each case state its use
- i. Hacksaw
  - ii. Pipe cutter
- (6marks)
- c) Sketch and label the parts of an indirect cold-water supply system (8marks)

**QUESTION TWO**

- a) State FOUR types materials used in manufacture of pipes (2marks)
- b) Sketch the following pipe fittings:
- i. 45°elbow
  - ii. Pipe Cap
  - iii. Cross
- (6marks)
- c) Explain the use of the following fittings in a cold-water supply system
- i. Ball valve
  - ii. Overflow pipe
  - iii. Check valve
- (6marks)
- d) Briefly describe any TWO methods of joining steel pipes (6marks)

### **QUESTION THREE**

- a) Explain the importance of traps in sanitary appliances (4marks)
- b) Sketch any THREE types of ordinary traps in sanitary appliances (6marks)
- c) Explain the importance of workman compensation act (6marks)
- d) Differentiate separate drainage system from combined drainage system (4marks)

### **QUESTION FOUR**

- a) With the aid of a sketch briefly describe the direct hot water system (8marks)
- b) Outline TWO ways in which water seals in traps can be lost (4marks)
- c) With the aid of a sketch briefly describe the two-pipe system of above ground drainage (8marks)

### **QUESTION FIVE**

- a) Explain the procedure of bending a steel pipe using a hydraulic machine (8marks)
- b) Differentiate welding from soldering (4 marks)
- c) Explain the conditions that require the construction of man holes in a drainage system (8marks)