



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF ENGINEERING AND TECHNOLOGY**

**UNIVERSITY EXAMINATION FOR THE DEGREE IN SCIENCE IN  
CONSTRUCTION MANAGEMENT**

**2<sup>ND</sup> YEAR 2<sup>ND</sup> SEMESTER 2023/2024 ACADEMIC YEAR**

**CENTRE: MAIN CAMPUS**

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**COURSE CODE: TCB 1210**

**COURSE TITLE: WORKSHOP TECHNOLOGY II**

**EXAM VENUE:**

**STREAM: BSc. CONSTRUCTION MGT**

**DATE: /04/2024**

**EXAM SESSION:**

**DURATION: 2 HOURS**

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**Instructions**

- 1. Answer question 1 (Compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

### QUESTION ONE

- a) With the aid of sketches, distinguish between one pipe and two pipe system as used in sanitary plumbing in buildings.  
(6 Marks)
- b) State **TWO** reasons why it may be necessary to use more than ONE type of pipe in same facility  
(4 Marks)
- c) What is the difference between welding and soldering  
(6 Marks)
- d) List any **FOUR** types of pipe fittings used in water supply systems  
(4 Marks)

### QUESTION TWO

- a) Explain where you would recommend the following types of toilets
  - i. P-trap type
  - ii. S-trap type  
(2 Marks)
- b) State **FOUR** requirements or aims of ideal building drainage system.  
(8 Marks)
- c) State any **FIVE** location criteria of manholes in a sewerage network.  
(5 Marks)

### QUESTION THREE

- a) With the aid of a neat arc welding circuit, explain the principle of arc welding  
(10 marks)
- b) State any **FOUR** safety procedures in arc welding.  
(5 Marks)

### QUESTION FOUR

- a) State any **FIVE** safety procedures in Oxy-Acetylene gas welding.  
(5 Marks)
- b) Explain how you can set the following flame types in Oxy-Acetylene gas welding
  - i. Neutral flame
  - ii. Carburizing
  - iii. Oxidizing.  
(6 Marks)
- c) With the aid of neat sketches show any **TWO** types of welded joints  
(4 Marks)

### QUESTION FIVE

- a) With the aid of neat sketches distinguish between Cold water direct and indirect system.  
(5 Marks)
- b) With the aid of a neat sketch illustrate the components of direct domestic hot water supply system  
(5 Marks)
- c) State **FIVE** common defects in hot water systems.  
(5 Marks)