



**MACHAKOS UNIVERSITY**  
**SCHOOL OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF MECHANICAL AND MANUFACTURING**  
**ENGINEERING.**

**SECOND SEMESTER EXAMINATION FOR ARTISAN IN**  
**MECHANICAL ENGINEERING (WELDING AND FABRICATION )**

**TRADE THEORY (TIVET)**

**DATE**

**TIME 3HRS**

**ATTEMPT ALL QUESTIONS**

- 1 (a) Define the term accident. (2 marks)
- (b) List **SIX** objectives of industrial safety. (6 marks)
- (c) State **TWELVE** causes of accidents in a workshop. (12 marks)
2. Explain the use, care and maintenance as well as the safety precautions when handling a bench vice. (20 Marks)
3. (a) List **SIX** tools used in marking out. (3 Marks)
- (b) Using a sketch explain the use, care and maintenance and safety when using a scriber. (17 Marks)
4. (a) Name **SIX** tools used for measuring and checking (3 Marks)
- (b) (I) Outline the uses, care and maintenance of a vernier callipers
- (II) Using a neat sketch, show a reading of 1.93 inches on a vernier calliper. (17 Marks)

5. (a) State **TEN** safety precautions to be observed when working in a workshop (5 Marks)
- (b) Explain **THREE** classes of fires (9 marks)
- (c) List **FOUR** fire fighting media (6 Marks)