



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

CERTIFICATE IN MECHANICAL ENGINEERING

FABRICATION TECHNOLOGY

DATE:

TIME:

INSTRUCTIONS

This paper consists of five questions, attempt ALL .

1. (a) Explain the meaning of the term safety as applied in the workshop. (4 marks)
- (b) State two importance of observing industrial safety in the workshop. (6 marks)
- (c) Explain the appropriate first aid procedures for handling the following (10 marks)
 - (i) Cuts and bruises
 - (ii) Burns
 - (iii) Electric shock
 - (iv) Fainting
2. (a) Define the term marking out as applied in engineering (3 marks)
- (b) Illustrate the following marking out tools using sketches (9 marks)
 - (i) Vee- block
 - (ii) Angle plate.
 - (iii) Centre punch
- (c) Explain the use of the following marking out tools (8 marks)
 - (i) Vee- block
 - (ii) Marking table
3. (a) Define the term inspection as used in engineering processes. (3 marks)
- (b) Using sketches illustrate the following inspection tools. (9 marks)
 - (i) Radius gauge
 - (ii) Try Square.
 - (iii) Feeler Gauges

- (c) Explain the use of the following inspection tools in engineering.
- (i) Spirit Level. (4 marks)
 - (ii) Engineers screw pitch gauge. (4 marks)
- 4 . (a) Define the term measuring as used in engineering.
- (b) Sketch a vernier calliper and label four main parts. (11 marks)
- (c) Show a reading of 10.48 mm on a 0.02 mm accuracy vernier callipers (6 marks)
5. (a) Define the term hand cutting as used in engineering. (2 marks)
- (b) Sketch a hacksaw and label four main parts. (10 marks)
- (c) Explain the use of the following hand cutting tools.
- (i) Chisels
 - (ii) Hammers.
 - (iii) Tongs
 - (iv) Anvil. (8 marks)