



# MACHAKOS UNIVERSITY

University Examinations for 2020/2021

SCHOOL OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

CERTIFICATE IN MECHANICAL ENGINEERING

FABRICATION TECHNOLOGY AND PRACTICE

DATE: 2/9/2021

TIME: 8:30 – 11:30 AM

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## INSTRUCTIONS

*This paper consists of five questions, attempt ALL .*

1. (a) Name four metals used in sheet metal work. (4 marks)
- (b) Name two components made from sheet metal. (2 marks)
- (c) Sketch the following sheet metal work tools stating their use;
  - (i) Mallet.
  - (ii) Straight snips.
  - (iii) Try square.
  - (iv) Spring dividers (14 marks)
2. (a) Define the term marking out as used in the workshop. (2 marks)
- (b) Name four tools used in marking out processes. (4 marks)
- (c) Sketch the following marking out tools stating their use;
  - (i) Surface plate.
  - (ii) Angle plate.
  - (iii) Pair of dividers.
  - (iv) Scriber. (14 marks)

3. (a) Name and Explain three methods of finishing processes used in engineering. (12 marks)
- (b) Explain two activities carried out as care and maintenance of tools and equipment used in finishing processes. (4 marks)
- (c) Explain any two safety precautions observed when carrying out finishing processes to ensure the following is achieved;
- (i) Personal safety.
- (ii) Equipment safety. (4 marks)
4. (a) Name four hand cutting tools used in the workshop. (4 marks)
- (b) Sketch any four hand cutting tools used in the workshop and explain their use. (14 marks)
- (c) State two safety precautions to be observed when carrying out hand cutting operations in the workshop. (2 marks)
5. (a) Define the following terms as applied in production engineering;
- (i) Inspection.
- (ii) Measuring. (4 marks)
- (b) Sketch the following inspection tools stating their use;
- (i) Feeler Gauge.
- (ii) Try square.
- (iii) Radius gauge.
- (iv) Gap gauge. (14 marks)
- (c) Name two angular inspection tools used for inspecting angular measurements. (2 marks)