



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
Department of Mechanical & Automotive Engineering
UNIVERSITY EXAMINATION FOR:
Diploma in Electrical & Electronics Engineering
EME 2132 : Workshop Technology & Practice
END OF SEMESTER EXAMINATION
SERIES: AUGUST 2019
TIME: 2 HOURS
DATE: Pick Date Aug 2019

Instruction to Candidates:

You should have the following for this examination

- *Student I.D. Card & Examination Pass*
- *Answer booklet*
- *Non-Programmable scientific calculator*

This paper consists of **FIVE** questions. Attempt question **ONE** and any other **TWO** questions.

Maximum marks for each part of a question are as shown.

Do not write on the question paper.

Question ONE

- a) State and clearly explain FIVE rules and regulations you would follow in engineering workshop for your personal safety (10 marks)
- b) Outline THREE rules to be observed concerning safe use of ladders (6 marks)
- c) State FOUR rules to be observed during material handling in the work place (4 marks)

Question TWO

- a) With the aid of a neat sketch, describe the blacksmith's hearth (8 marks)
- b) Sketch the following forge-work tools (6 marks)
 - i. Hollow bit
 - ii. Pick up or Dandy
 - iii. Box square

- c) Explain the uses of each of the forging tools shown in question (b) above
(6 marks)

Question THREE

- a) Draw a well labeled sketch of a twist drill and explain the function FIVE of its parts. (11 marks)
- b) Name three types of a drilling machine (3marks)
- c) Explain the following types of drills
- i. Centre drill
 - ii. Counter sink drill
 - iii. Counter bore drill (6 marks)

Question FOUR

- a) Define the term "tapping" (1 mark)
- b) With the aid of a neat sketch, describe the THREE taps found in one set of taps (10 marks)
- c) Given one set of taps, M8*1.25, outline the tapping process given a mild steel plate 75mm by 50mm by 6 mm thick hence giving the size of twist drill to be used. (9 marks)

Question FIVE

- a) State the THREE operations which involve sheet metal work (3 marks)
- b) List the materials used in sheet metal work (4 marks)
- c) Differentiate between a plate and a sheet metal (3 marks)
- d) State THREE stakes and outline their uses in sheet metal work (9 marks)
- e) Define the term "Stakes" in sheet metal work. (1 mark)