



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MEDICAL ENGINEERING

EHL 2102: WORKSHOP TECHNOLOGY AND PRACTICE I

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2018

TIME: 2HOURS

DATE: Pick Date Sep 2018

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

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

Do not write on the question paper.

QUESTION ONE

- (a) Describe and FIVE special properties of engineering materials **(10Marks)**
- (b) Describe uses/application of any FIVE non metallic engineering materials **(10 marks)**
- (c) List FIVE types of thread forms used in various engineering **(5marks)**
- (d) Outline FIVE advantages of adhesive bonding over welding **(5 MARKS)**

QUESTION TWO

- (a) Sketch and label a Blast Furnace used for the production of steel (10marks)
- (b) Describe the need for the FOUR raw materials charged into a blast furnace
For the production of steel (8marks)
- (c) Distinguish between steel and Alloy Steel (2marks)

QUESTION THREE

- (a) Describe any SEVEN elements of an Oxy-Acetylene welding set (14marks)
- (b) Using sketches, show the THREE Oxy-Acetylene flame types/forms (6marks)

QUESTION FOUR

- (a) Outline the importance of Heat Treating in Steel (2marks)
- (b) List any SIX heat treatment methods to steels materials (6marks)
- (c) Describe the following engineering process
 - (i) Measuring
 - (ii) Gauging(4marks)
- (d) Describe any FOUR metal surfaces protection methods (8marks)

QUESTION FIVE

Describe procedure of cutting any internal metric Vee thread M16 x 2 on a bench (20marks)