



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

DIPLOMA IN DIPLOMA IN BUILDING & CIVIL ENGINEERING

2705/105: WORKSHOP TECHNOLOGY

DATE: 16/4/2019

TIME: 2.30-5.30 PM

INSTRUCTIONS:

This paper consists of five questions, attempt ALL .

QUESTION ONE (20 MARKS)

- a) Describe the procedure of marking out a work piece (7 marks)
- b) Using neat sketches illustrate the following measuring instruments giving their use;
 - i. Vernier calliper
 - ii. Micrometer
 - iii. steel rule
 - iv. Divider (8 marks)
- c) Mention six classifications of hand tools giving examples of each. (5 marks)

QUESTION TWO (20 MARKS)

- a) Using neat diagram show parts of lathe machine giving function of each part. (10 marks)
- b) Describe Five lathe operations with aid of neat sketches (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the parts and principle of operation of the following pumps;
 - i. Centrifugal (7 marks)

- ii. Reciprocating (8 marks)
- b) Explain why centrifugal pumps are widely used in most typical applications (5 marks)

QUESTION FOUR (20 MARKS)

- a) Name Six ways of classifying internal combustion engines (6 marks)
- b) Differentiate between a four stroke and two stroke engines . (8 marks)
- c) Mention Six common maintenance checks when serving engines. (6 marks)

QUESTION FIVE (20 MARKS)

- a) Explain how quick return mechanism is achieved in a shaper machine. (10 marks)
- b) With aid of neat sketches describe Five drilling operations. (10 marks)