



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

FIRST YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN CIVIL
ENGINEERING

WORKSHOP TECHNOLOGY V

DATE: 5/6/2017

TIME: 2.00-4.00 PM

INSTRUCTIONS

This paper consists of two sections. Section A is compulsory, and then answer any other two questions from section B

SECTION A: COMPULSORY.

1. a) State any **five** objectives of industrial safety (5 marks)
- b) Outline any **three** responsibilities of the employer and three of the employees under the health and safety at work act (6 marks)
- c) Sketch **four** types of files (4 marks)
- d) Highlight any **six** causes of accidents in workshops. (6 marks)
- e) Explain the **four** safety colors' giving an example of where they can be used. (4 marks)
- f) Sketch any five safety signs in a workshop and explain their meaning. (5 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

2. a) Sketch the following hand tools
- i Chisel
 - ii Scriber
 - iii Hacksaw
 - iv Ball pein hammer (8 marks)
- b) Highlight any **six** general health and safety precautions. (6 marks)
- c) Highlight any **three** precautions to be observed in prevention of electric shock (3 marks)
- d) Highlight any **three** duties of an employer in regard to PPE (3 marks)
3. a) Name **six** main parts of a petrol Engine. (3 marks)
- b) With the aid of a sketch explain the operation of the coil ignition system. (17 marks)
4. With the aid of sketches explain the operation of Four-stroke petrol engine. (20 marks)
5. a) Explain the procedure of checking whether the cylinder head is bend. (10 marks)
- b) Explain the procedure of checking ovality and taper of a cylinder bore. (10 marks)