



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
DIPLOMA IN BUILDING & CIVIL ENGINEERING (DBC)

EBC 2205: WORKSHOP TECHNOLOGY III

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MARCH 2014

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.

Answer any **THREE** questions
Maximum marks for each part of a question are as shown
This paper consists of **TWO** printed pages

Question One

- a) State the **THREE** obligations of an employee as in the health and safety at work act (6 marks)
- b) Explain what action should be done in case there a victim who has fractured his leg (4 marks)
- c) State when precautions are to be taken before one starts to work on a circuit (4 marks)
- d) State **TWO** types of fires and mention the causes of the fires (6 marks)

Question Two

- a) Explain how the transmission of power is managed economically and mention how the power losses in the lines is minimized (6 marks)
- b) Explain the main functions of the main switch gear in any installation (6 marks)
- c) Draw a labeled diagram of an earth leakage circuit breaker and explain its operation. (8 marks)

Question Three

- a) (i) Draw a labeled diagram o f a ring circuit of 4 13 Amperes docket outlets with a spur of 2 socket outlets, being supplied from the distribution board. (8 marks)
- (ii) Draw a labeled diagram of a lighting being controlled by three switches independently. (6 marks)
- b) Explain the function of a:
 - (i) Circuit breaker
 - (ii) Distribution board (6 marks)

Question Four

- a) With a well labeled diagrams, explain the operation of a two stroke petrol engine (clerk engine) (14 marks)
- b) State **ONE** function of each of the following engine components:
 - (i) Camshaft
 - (ii) Flywheel
 - (iii) Push rods
 - (iv) Gudgeon pin
 - (v) Valves
 - (vi) Crank pins (6 marks)

Question Five

- a) Rotary pumps have frequent causes of touble. Give **ONE** cause and **ONE** remedy for each case of the following:-
 - (i) Pump fails to deliver
 - (ii) Pump loses its prime after starting
 - (iii) Pump does not deliver the required capacity

- (iv) Pump takes too much power
- (v) Pump noisy

(20 marks)