



MURANG'A UNIVERSITY COLLEGE

Constituent college of Jomo Kenyatta University of Agriculture and Technology

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

CRAFT CERTIFICATE IN AUTOMOTIVE ENGINEERING CLASS: CAE14C

END OF TERM THREE EXAMINATION MODULE I.

VEHICLE TECHNOLOGY. SEM0106

TIME: 2 HOURS

DATE: 30th MARCH 2015

INSTRUCTIONS TO CANDIDATES.

Attempt **All** questions.

1. a) State TWO functions suspension system (2 marks)
- b.) State THREE functions of a tyre in a vehicle. (3 marks)
- c) With an aid of a well labeled diagram explain the operation of a hydro-pneumatic suspension system (15 marks)
2. a. Explain the purpose of the steering system (3 marks)
- b. With the aid of sketches explain the terms below.
 - i. Camber
 - ii. Caster
 - iii. King pin inclination (9 marks)
- c. Explain FOUR routine maintenance checks that should be carried out in the steering system. (8 marks)
3. a. State the purpose of the propeller shaft. (3 marks)
- b. Explain the purpose of the differential. (4 marks)
- c. Explain TWO reasons for incorporating the final drive in a vehicle. (4 marks)
- d. With the aid of sketches explain THREE types of gear teeth used in the final drive. (9 marks)