



MACHAKOS UNIVERSITY
SCHOOL OF ENGINEERING AND TECHNOLOGY
MECHANICAL ENGINEERING DEPARTMENT
SEMESTER II EXAMINATIONS – 2019
DIPLOMA IN AUTOMOTIVE ENGINEERING
VEHICLE TECHNOLOGY AND PRACTICE

INSTRUCTIONS TO CANDIDATES

This paper consists of TWO sections; A and B . Answer section A (COMPULSORY) and any THREE questions from section B.

SECTION A (COMPULSORY)

- 1 (a) State the function of the final drive
- (b) With the aid of a sketch, explain the operation of a final drive.
- (c) State the function of a gearbox.
- (d) With the aid of a diagram, explain the operation of a three- speed gearbox. (40 marks)

SECTION B.

- 2.(a) State two functions of a clutch.
- (b) With the aid of a diagram, explain the operation of a single plate spring clutch. (20Marks)

3 Use sketches to explain the operation of a continuously varying transmission (CVT).
(20Marks)

4 With the aid of a sketch explain the operation of a torque converter. (20Marks)

5 Use a sketch to explain the operation of a transfer gear box used in 4-wheel drive vehicles.
(20Marks)