



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

THIRD YEAR FIRST SEMESTER EXAMINATION FOR DIPLOMA IN MOTOR VEHICLE ENGINEERING

VEHICLE TECHNOLOGY & PRACTICE I

DATE: 27/7/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

Answer all questions in Section A and choose any other TWO in Section B

SECTION A: COMPULSORY.

1.
 - a) Name **five** components of the drive train of a motor vehicle. (2½ marks)
 - b) With the aid of a sketch, explain the power flow of an engine transmitting power to rear wheels. (10 marks)
 - c) Name five major components of the clutch assembly. (2½marks)
 - d) With the aid of a sketch, explain the operation of the clutch master cylinder. (15 marks)

SECTION B

2.
 - a) Explain the functions of the following shafts as used in gearbox
 - i In put shaft
 - ii Counter shaft
 - iii Output shaft (10 marks)
 - b) Explain any TWO types of bearings and bushings as used in the gearbox. (10 marks)

3. a) Name **TWO** types of propeller shafts (2 marks)
b) With the aid of a sketch explain the power flow of the reverse gear. (18 marks)
4. The clutch in a vehicle is found to be slipping. Explain the procedure you will use to insert a new clutch Centre plate. (20 marks)
5. The gearbox in a front engine rear wheel drive vehicle is making noise when number three gear is engaged. Name two possible causes of the malfunction and explain the procedure you will use to rectify one of the causes named. (20 marks)