



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

DIPLOMA IN AUTOMOTIVE ENGINEERING

MODULE I TERM 1

VEHICLE TECHNOLOGY

DATE:

TIME:

INSTRUCTIONS:

- This Examination contains FIVE questions
- Attempt all questions
- All questions carry equal marks

- (a) Briefly explain THREE causes of accidents in a motor vehicle workshop. (6 marks)
 - (b) Describe the FIVE classes of fire and explain methods of fighting each class. (14 marks)
- Using a sketch show the layout of a conventional vehicle and briefly state the functions of the main components. (20 marks)
- (a) State THREE types manual gearboxes used in motor vehicle. (3 marks)
 - (b) With the aid of a diagram explain the construction and operation of a THREE SPEED synchromesh gearbox. (17 marks)
- (a) State the function of a clutch in the transmission system of a motor vehicle. (2 marks)
 - (b) Explain the factors affecting the torque to be transmitted by a clutch. (4 marks)
 - (c) Using a well labeled diagram explain the operation of a diaphragm type of clutch. (14 marks)
- (a) State the reasons for fitting a differential unit in a motor vehicle transmission system. (3 marks)
 - (b) With a well labeled diagram explain the operation of a differential unit (17 marks)

