



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
Department of Mechanical & Automotive Engineering
UNIVERSITY EXAMINATION FOR:
Diploma in Automotive Engineering
EAU 2203 : Vehicle Technology & Practice II
END OF SEMESTER EXAMINATION
SERIES: AUGUST 2019
TIME: 2 HOURS
DATE: Pick Date Aug 2019

Instruction to Candidates:

You should have the following for this examination

- *Student I.D. Card & Examination Pass*
- *Answer booklet*
- *Non-Programmable scientific calculator*

This paper consists of **FIVE** questions. Attempt **TWO** questions in section A and **ONE** question in section B.

Maximum marks for each part of a question are as shown.

Do not write on the question paper.

SECTION A

Question ONE

- a) Explain the function of the differential unit. **(3 marks)**
- b) With the aid of a diagram, explain the working principle of the final drive when the vehicle is negotiating a corner. **(17 marks)**

Question TWO

- a) Explain why multi plate clutch is sometimes used in heavy vehicle. **(3 marks)**
- b) With the aid of a diagram, explain the construction and operation of a single plate clutch. **(17 marks)**

Question THREE

- a) Explain the function of the gearbox in an automobile. **(4 marks)**
- b) With the aid of a diagram, describe the construction and working principle of sliding mesh gearbox when second gear is engaged. **(16 marks)**

SECTION B

Question FOUR

- a) Describe how to test a vehicle to determine the condition of the friction clutch. **(4 marks)**
- b) If the test in (a) proves that the clutch is worn out, describe the procedure for replacing the clutch disc. **(16 marks)**

Question FIVE

A vehicle fitted with sliding mesh gearbox has been brought to the workshop for repair. Describe the procedure of overhauling the unit, include the necessary preparation. **(20marks)**