



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology

DEPARTMENT OF MECHANICAL AND AUTOMOTIVE ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MECHANICAL ENGINEERING (DMEN 6)

EAU 2306 VEHICLE TECHNOLOGY AND PRACTICE IV
END OF SEMESTER EXAMINATION

SERIES: DEC 2016 PAPER-A

TIME: 2 HOURS

DATE: 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of FIVE questions. Answer TWO questions from section A and ONE Question from section B.

Do not write on the question paper.

SECTION A

Answer any two questions from this section

Question One

- (a) State any four advantages of a torque converter. (4 marks)
- (b) Differentiate between a torque converter and a gearbox. (2 mark)
- (c) With the aid of a diagram, explain the operation of a torque converter (14 marks)

Question Two

- (a) Explain any two causes of transmission wind-up in a four wheel drive vehicle. (4 marks)
- (b) Sketch the layout of a four wheel drive vehicle and explain its operation (13 marks)
- (c) Outline any three advantages of the third differential (3 marks)

Question Three

- (a) State any five uses of paint on a motor vehicle (5 marks)
- (b) Explain any five requirements of a good vehicle body structure (5 marks)
- (c) Describe the various methods used to reduce air drag on motor vehicles (10 marks)

SECTION B

Answer One Question from this section

Question Four

- (a) Explain any three body defects and their causes (6 marks)
- (b) Outline a procedure to panel beat and spray the front part of a car which has been involved in a head-on collision and the bonnet badly damaged. (14 marks)

Question Five

Describe a step-by-step procedure to carry out a wind tunnel test to determine the coefficient of discharge of a particular car.

(20 marks)