



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

SECOND YEAR FIRST SEMESTER EXAMINATION FOR DIPLOMA IN

AUTOMOTIVE ENGINEERING

VEHICLE ELECTRICS AND ELECTRONICS

DATE: 29/5/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

This paper consists of two sections A and B.

Section A is compulsory.

Answer any two Questions from section B.

SECTION A

1. a) Name two types of wet batteries. (2 marks)
- b) Explain the chemicals reactions which takes place in the lead-acid battery during charging and discharging. (12 marks)
- c) With the aid of a sketch explain the operation of the self-excitation alternator. (16 marks)

SECTION B

2. a) Name two types of a generator as used in a vehicle. (2 marks)
- b) With the aid of a diagram explain the starting circuit layout. (10 marks)
- c) Draw the Headlamp circuit and label all parts. (8 marks)
3. a) With the aid of a diagram explain the operation of a hot-wire flasher unit. (10 marks)
- b) Explain the procedure of servicing a faulty parking light circuit. (10 marks)
4. Explain the procedure of servicing a faulty alternator. (20 marks)
5. Explain the procedure of replacing starter motor brushes of a vehicle. (20 marks)