

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

**Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.must.ac.ke**](http://www.must.ac.ke) **Email:** [**info@must.ac.ke**](mailto:info@must.ac.ke)

**University Examinations 2015/2016**

THIRD YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN CIVIL ENGINEERING

**ECV 2354: HIGHWAY ENGINEERING II**

**DATE: NOVEMBER 2015 TIME: 11/2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. State two types of pavements. (2 Marks)
2. State the primary aim for pavement design. (2 Marks)
3. State five factors which influence the quality of pavement and hence should be considered in pavement design. (5 Marks)
4. State five points which form basic information required for pavement design. (5 Marks)
5. State five functions of bituminous surfacings. (5 Marks)
6. State three responsibilities of maintenance engineers. (3 Marks)
7. Mention four categories of maintenance work. (4 Marks)
8. List four main test groups used to ascertain the properties of aggregates. (4 Marks)

**QUESTION TWO (15 MARKS)**

What is road maintenance? State the objectives of roads maintenance and discuss the four types of roads maintenance. (15 Marks)

**QUESTION THREE (15 MARKS)**

Discuss in details the three categories of construction plants giving examples in each category. (15 Marks)

**QUESTION FOUR (15 MARKS)**

1. Jointing is a key factor in the design of rigid pavements. Explain the purposes of the various types of joints which are incorporated in rigid pavements. (6 Marks)
2. Explain the functions of each of the four layers of flexible pavements. (8 Marks)
3. State two factors that are essential for a joint to function properly. (1 Mark)