

**MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS 2016/2017 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER**

**SCHOOL OF TOURISM AND NATURAL RESOURCE MANAGEMENT**

**BACHELOR OF SCIENCE IN FORESTRY**

**COURSE CODE: FOR410**

**COURSE TITLE: SOIL AND WATER**

**CONSERVATION**

**DATE: 30th JANUARY, 2017 TIME: 11:00AM-1:00PM**

**INSTRUCTIONS TO CANDIDATES**

Answer **ALL** questions in section **A** and any other **THREE** in section **B.**

**SECTION A: (25 MARKS)**

1. (a) Explain the control and management of clay and silt sediments **[2 marks]**
2. Give the difference between the Horton’s theory and soil theory of the onset of runoff? **[2 marks]**
3. Explain the “Theory of partial watershed surface contribution to runoff? **[2marks]**
4. (a) Explain conditions that influence assessment of wind erosion

 **[2 marks]**

(b)Describe briefly the processes involved in soil erosion **[3 marks]**

 3. (a) Explain the meaning of the following terms as used in wind

 erosion:

 (i) Saltation  **[2 marks]**

 (ii) Abrasion  **[2 marks]**

1. Explain factors that influence the types of gullys on homogeneous soils?  **[3 marks]**
2. Explain briefly factors influencing soil water degradation **[4 marks]**
3. Explain briefly the soil conditions considered to control storm water flow  **[3 marks]**

**SECTION B: ANSWER ANY THREE QUESTIONS (45 MARKS)**

1. Discuss the factors considered in assessment and modeling of soil erosion based on Universal Soil Loss Equation(USLE) **[15 marks]**
2. Discuss the water conservation measures in an irrigation system  **[15 marks]**
3. Discuss current strategies and approaches in watershed management

 **[15 marks]**

1. Discuss the appropriate approaches used in conservation of soils so as to minimize soil erosion effects **[15 marks]**

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