**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**

**University Examinations 2015/2016**

THIRD YEAR SECOND SEMESTER EXAMINATION

FOR DIPLOMA IN

CIVIL ENGINEERING

**ECV 2352: IRRIGATION ENGINEERING II**

 **DATE: APRIL 2016 TIME: 1 ½ HOURS**

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

**QUESTION ONE (30 MARKS)**

1. In selection of a site for construction of a dam certain investigations work need to be carried out. Briefly explain three of these investigation (12 marks)
2. Define a spillway and explain four types of spillways provided on the dam. (6 marks)
3. Discuss four types of springs as a source of water for irrigation. (8 marks)
4. Stating where used discuss two methods of irrigation system. (4 marks)

**QUESTION TWO (15 MARKS)**

1. Describe the phenomenon of water logging and list three effects it has on agricultural development (6 marks)
2. List five causes of water logging (5 marks)
3. Explain four methods of land reclamation (4 marks)

**QUESTION THREE (15 MARKS)**

1. Discuss two types of drainage systems (4 marks)
2. Eplain three physical characteristics of a reservoir (6 marks)
3. State five factors considered when selecting a dam site. (5 marks)

**QUESTION FOUR (15 MARKS)**

1. Define the following terms as used in analyzing farm irrigation costs.
2. Ownership costs
3. Present worth
4. Operation cost
5. System cost.
6. Components salvage value (15 marks)
7. State five factors that determine the labour required to operate an irrigation system. (5 marks)