

**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**

SECOND YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN CIVIL ENGINEERING

**ECV 2253: CONCRETE TECHNOLOGY II**

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

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

**QUESTION ONE (30 MARKS)**

1. (i) What do you understand by the term ‘concrete placing’? (2 Marks)

(ii) Discuss any three rules that should be observed when placing concrete. (6 Marks)

(iii) Briefly discuss any three manual methods of compacting concrete. (6 Marks)

1. (i) What is ‘formwork’? (2 Marks)

(ii) State two basic forms of formwork. (2 Marks)

1. State the desirable qualities of fresh concrete which may be lost during its transportation. (3 Marks)
2. State any properties of hardened concrete. (5 Marks)
3. State any four advantages of precast concrete over ‘cast insitu’ concrete. (4 Marks)

**QUESTION TWO (15 MARKS)**

1. Why is it necessary to cure concrete. (2 Marks)
2. Explain how you would ensure sufficient curing of concrete in the following cases:
3. In walls (reinforced). (2 Marks)
4. In large open concrete floors.(mass) (2 Marks)
5. State and explain any three methods that can be adopted to cure concrete. (9 Marks)

**QUESTION THREE (15 MARKS)**

1. State any five advantages of using ready mixed concrete over concrete mixed on site. (5 Marks)
2. State the basic principle of pre-stressing concrete. (2 Marks)
3. Discuss any three precautions observed when transporting and handling precast concrete units. (6 Marks)
4. State any four forms of precast concrete units. (2 Marks)

**QUESTION FOUR (15 MARKS)**

1. Discuss the process of erecting formwork. (5 Marks)
2. What do you understand by the term pre-stressing of concrete. (2 Marks)
3. List six advantages of pre-stressed over ordinary reinforced concrete. (6 Marks)
4. Distinguish between pre tensioning and post tensioning in concrete works. (2 Marks)