



**TECHNICAL UNIVERSITY OF MOMBASA**

---

FACULTY OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF BUILDING & CIVIL ENGINEERING

**UNIVERSITY EXAMINATION FOR:**

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

**EME 4212 HEALTH SAFETY AND ENVIRONMENTAL ENGINEERING**

SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES: SEPTEMBER 2018**

**TIME: 2 HOURS**

**Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

*-Scientific calculator*

This paper consists of five questions.

Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

**QUESTION ONE (COMPUSORY 30 MARKS)**

(a) State FOUR basic aspects targeted by Occupational Safety and Health (OSH) **(10Marks)**

(b) Define the following terms used in occupational Safety and Health

(i) Risk

(ii) Risk Management

(iii) Ergonomics

(iv) Mitigation measures (10Marks)

(c) (i) Define environmental audit study

(ii) State FOUR major functions of an audit team (10Marks)

### **ATTEMPT ANY TWO QUESTIONS**

#### **QUESTION TWO (20 MARKS)**

Thwake Dam is being constructed in Makueni County. It is located at the confluence of rivers Athi and Thwake. After completion, the dam will be the largest in East and Central Africa.

Discuss:-

(a) Negative impact of dam on the Environment (10Marks)

(b) Positive impact of dam on the Environment (10Marks)

#### **QUESTION THREE (20 MARKS)**

(a) . Briefly explain responsibilities the following as established in the 2014 water act of Kenya

(i) Water Resources Authority (WRA)

(ii) Water Works Development Agencies (WWDAs) (10Marks)

(b) (i) State the powers bestowed in the Establishment of the Rural Electrification Authority

(ii) Briefly explain the Functions of the Authority in 3 (b)( ii) (10Marks)

#### **QUESTION FOUR (20 MARKS)**

An elevated road is being constructed at Maji Ya Chumvi along Nairobi-Mombasa Highway to fly over the railway line. State the procedure to be followed by Environmental Impact Assessment expert when preparing project report

#### **QUESTION FIVE (20 MARKS)**

Explain the establishment and the role of **ANY** of the following offices as provided in the occupational safety and health Act 2007

(a)The director

(b)Occupational safety and health officer

(c) Technical advisory committee

(d) The national council for occupational safety and health