



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL & AUTOMOTIVE ENGINEERING

**UNIVERSITY EXAMINATION FOR:**

**DIPLOMA IN NAUTICAL SCIENCE**

**EMR 2240 : SHIP CONSTRUCTION & STABILITY II**

**END OF SEMESTER EXAMINATION**

**SERIES: AUGUST 2017**

**TIME: 2 HOURS**

**DATE:** Pick Date Sep 2017

## Instructions to Candidates

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of **FIVE** questions. Attempt any **THREE** questions.

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

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## **Question ONE**

- a. Define and discuss the following terms **(12 Marks)**
- i. GM
  - ii. KG.
  - iii. KM
  - iv. Moment of Force.
- b. With appropriate drawing illustrate the relationship between KM and GM **(8 Marks)**

## **Question TWO**

When a vessel of 5800 tonnes displacement KM 8.5m is inclined by shifting 10 tonnes 16 m, it is noted that the mean deflection of a plumbline 12m long is 33.25 cm. What is her KG and inclined angle? **(20 Marks)**

## **Question THREE**

Explain with appropriate illustrations, the effect of shifting weights on-board a ship and its effect on the stability of the ship **(20 Marks)**

**Question FOUR**

Discuss in brief the following:

- i. Bulkheads (5 Marks)
- ii. Water tight bulkheads (5 Marks)
- iii. Double bottom tanks (5 Marks)
- iv. Deep tanks (5 Marks)

**Question FIVE**

Using the diagram below of a bulkhead, discuss its relevance and importance (20 Marks)

