



# TECHNICAL UNIVERSITY OF MOMBASA

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## SCHOOL OF BUSINESS

### DEPARTMENT OF MANAGEMENT SCIENCE

#### UNIVERSITY EXAMINATION FOR:

#### BACHELOR OF MARITIME MANAGEMENT (COMMERCIAL)

#### BMM 4106 : MARITIME TECHNOLOGY I – NAVAL ARCHITECTURE

#### END OF SEMESTER EXAMINATION

**SERIES:** APRIL 2016

**TIME:** 2 HOURS

**DATE:** Pick Date May 2016

#### 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. Discuss the influence of a classification society in shipping **(10 Marks)**
- b. Explain the functions of a classification society in the design stage of a ship **(10 Marks)**

#### Question TWO

- a. Assuming you are a shipping manager summoned by the board directors of your company to explain why one of your ships has to be dry docked. Give a reasoned opinion on what is the purpose of dry docking the vessel. **(5 marks)**
- b. Discuss what will be the expectations in a Hull Inspection on the dry dock **(15 Marks)**

#### Question THREE

- a. Sketch the side and mid ship profile of a ship and indicate the following
  - i). Length overall
  - ii). Length between perpendiculars
  - iii). Summer load waterline
  - iv). Camber

v). Breadth Moulded

vi). Breadth Extreme

vii). Depth

viii). Draught

ix). Freeboard

x). Rise of the floor

**(10 Marks)**

b. State the purpose of the following:

Camber, Freeboard, Length overall, Length between perpendiculars, Breadth extreme. **(10 Marks)**

#### **Question FOUR**

a. Name the three linear and three rotational motions that a ship is free to move with six degrees of freedom **(6 Marks)**

b. With reference to ship construction:

i). State why transverse bulkheads are incorporated in the design and construction **(2 Marks)**

ii). Explain how the spacing of the watertight bulkheads is determined in the construction **(2 Marks)**

c. With reference to regulations governing the construction of bulkheads, state what is the minimum number of bulkheads required a ship must have. **(10 Marks)**

#### **Question FIVE**

Discuss the significance of deducted spaces in the computation of gross tonnage and net tonnage of a ship.

**(20 Marks)**