



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF BUSINESS

DEPARTMENT OF MANAGEMENT SCIENCE

UNIVERSITY EXAMINATION FOR:

BACHELOR OF MARITIME MANAGEMENT (COMMERCIAL)

BMM 4106 : MARITIME TECHNOLOGY I-NAVAL ARCHITECTURE

SPECIAL SUPPLEMENTARY EXAMINATION

SERIES: AUGUST 2017

TIME: 2 HOURS

DATE: 19 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 question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- a) Define the following terms **(10 Marks)**
- i. Gross tonnage (GRT)
 - ii. Heel
 - iii. Lightship weight
 - iv. Tons per centimeter (TPC)
 - v. Trim
- b) Discuss the difference between Trim and List **(10 Marks)**

Question TWO

Describe the types of ships shown while referring to:

- i. Construction
- ii. Cargo carried and deadweight

(20 Marks)



Figure 1



Figure 2

Question THREE

In shipbuilding, discuss the information produced in the following stages:

- a) Concept design (5 Marks)
- b) Preliminary design (5 Marks)
- c) Contract Design (5 Marks)
- d) Detail design (5 Marks)

Question FOUR

With the aid of an appropriate drawing, illustrate a Ships' Principle Dimensions and measurements

(20 Marks)

Question FIVE

- a) Define:
 - i. density
 - ii. Relative density **(4 marks)**
- b) Discuss the Archimedes principle **(5 marks)**
- c) Explain the effect of density on ships floatation **(5 marks)**
- d) The Water barge 'the SEA PRINCESS' is a box barge length 80m breadth 10m floats at a draught of 3m in sea water. Find its weight of the barge. Assume the density of seawater is 1.025 ton/m³. **(6 marks)**