



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

DIPLOMA IN NAUTICAL SCIENCE

ENE 2342 : OCEAN NAVIGATION II

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

With appropriate drawing show and define the following: (20 Marks)

- i). Charted Clearance
- ii). Neap and Spring Range of Tide
- iii). Charted Depth
- iv). Drying Height
- v). Chart Datum

## Question TWO

A ship sails due East from the following position ( $25^{\circ} 00' N$ ,  $25^{\circ} 00' E$ ). Find:

- a. The distance run by the ship if the Longitude changed by  $10^{\circ}$  (10 Marks)
- b. The final Position of the Ship if the ship sailed further east for two hours with a navigational speed of 10 Knots (10 Marks)

## Question THREE

Using the Information below, find the Estimated Position of the ship at 1830 Hrs (20 Marks)

Position at 1100 Hrs ( $18^{\circ} 18' N$ ,  $58^{\circ} 58' E$ )

Time	Ships Speed	Compass Course	Variation	Deviation
1100	10 Knots	$050^{\circ} C$	$1^{\circ} E$	$4^{\circ} W$
1500	10 Knots	$140^{\circ} C$	$1^{\circ} E$	$1^{\circ} E$
1700	10 Knots	$210^{\circ} C$	$1^{\circ} E$	

#### Question FOUR

A ship sailed on the composite track between position A ( $35^{\circ} 00' N$ ,  $55^{\circ} 00' E$ ) and a position B ( $48^{\circ} 00' N$ ,  $90^{\circ} 00' W$ ), where the limiting Lat was  $55^{\circ} N$ . Find the (20 marks)

- Distance
- Initial and Final Course

#### Question FIVE

At 0119 GMT MV Columbus with a draft of 7 was ready to receive supplies and Bunkers. She was loaded with 90 Tones and set sail. She however grounded at DAVENPORT. Find:

- Time of refloating
- Last Depth During Grounding
- Charted Depth at instance of grounding (20 Marks)