

TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN NAUTICAL SCIENCE

ENE 2340: OCEAN NAVIGATION I

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 question ONE (Compulsory) and any other TWO questions. **Do not write on the question paper.**

Question ONE

a. Use the following words to complete the paragraph

Meteorological Offices, Radio-Room, Direction Finder, Route, Echo Sounder, Speed Log, Readings, Gyro-Compass, Autopilot, Course, Stars, Magnetic Compass, Piloting, Celestial Bodies, Gyroscopic Compass, Spherical Hyperbolas, North Pole, Seamanship, Dead Reckoning, Short Range, Conducting, Inertial Navigation

- i). Once clear of port and congested coastal waters, the captain of a modem liner sets his ______ and leaves the ______ to hold it.
- ii). In _____, the ship is conducted without the use of celestial observations, while the ship is in sight of land.
- iii).Navigation is the art ______ of a ship from one place to another.
- iv). The calculation for determining the ship's position by using the courses steered and distances run is called ______.
- v). The Sun, Moon, planets and the stars are _____.
- b. Define the following through representation in ana diagram (10 Marks)

- i). Actual height
- ii). Charted Height
- iii).MHWS
- iv). Chart Datum
- v). Height of Tide

Question TWO

A ship sails due East from the following position $(25^0 00^{\circ} N, 25^0 00^{\circ} E)$. Find:

- a. The distance run by the ship if the Longitude changed by 10^{0} (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

Explain and discuss the illustrated phenomena of Revolving Storms



Question FOUR

A ship sailed from position A (10^{0} 37'N, 089^{0} 56'E) to a Final position B (40^{0} 37'N, 055^{0} 22'E). Calculate the Distance; Initial & Final Courses (20 Marks)

Question FIVE

A ship in position ($40^0 15$ 'N, $18^0 10$ 'W) set sail at 0800Hrs on a true course of 132^0 T at a speed of 15 Knots. At 0840 Hrs The ship altered course as follows:

Time	True Course
0840 Hrs	246 ⁰ T
0956 Hrs	302 ⁰ T
1032 Hrs	010 ⁰ T

1144 Hrs	090 ⁰ T

Find the DR position at Noon (1200) (20 Marks)