

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Semester 2 Examinations 2007/08

School: National Maritime College of Ireland

Programme Title: Bachelor of Science in Nautical Science-Stage 1

Programme Code: SNASC 7 Y 1

Module Title: Basic Navigation and Meteorology

Module Code:

External Examiner(s): Capt. P Farnan, Capt. P Miley

Internal Examiner(s): Capt. R Cooke

Instructions: Answer all questions.

Duration: 2 Hours

Sitting: Summer 2008

**Requirements for this examination: Nautical Almanacs to be provided by college.
Norries tables to be provided by college. Navigation Worksheets provided by college.**

Note to Candidates: Please check the Programme Title and the Module Title to ensure that you are attempting the correct examination.
If in doubt please contact an Invigilator.

Section A

Q1. A vessel leaves position $09^{\circ} 17'S$ $032^{\circ} 06'W$ and steams on a course of 279° for 34 miles. Find by Traverse tables the final position. (10 marks)

Q2. Find by Mercator sailing the course and distance between $52^{\circ} 10'.0S$ $171^{\circ} 08'.0E$ and $27^{\circ} 02'.0S$ $034^{\circ} 02'.0E$ (15 marks)

Q3. On the 28 Apr. in DR Pos'n $42^{\circ} 12'N$ $140^{\circ} 48'E$ the sextant altitude of the Sun's LL when on the meridian was $61^{\circ} 56.9'$, bearing South. Index Error $2.7'$ on the arc, HE 14.8m.

Find the Latitude, the direction of the position line, the GMT and LMT of Meridional Passage

(20 marks)

Q4. On 11th January 1996 in DR position $23^{\circ} 40' N$ $52^{\circ} 30' W$ the sun set bearing 240° Compass. Variation $10^{\circ} E$.

Find, by amplitude tables or by calculation the true bearing and the Deviation for the ship's head. (15 marks)

Section B

Q.5 On the accompanying chartlet indicate the following:

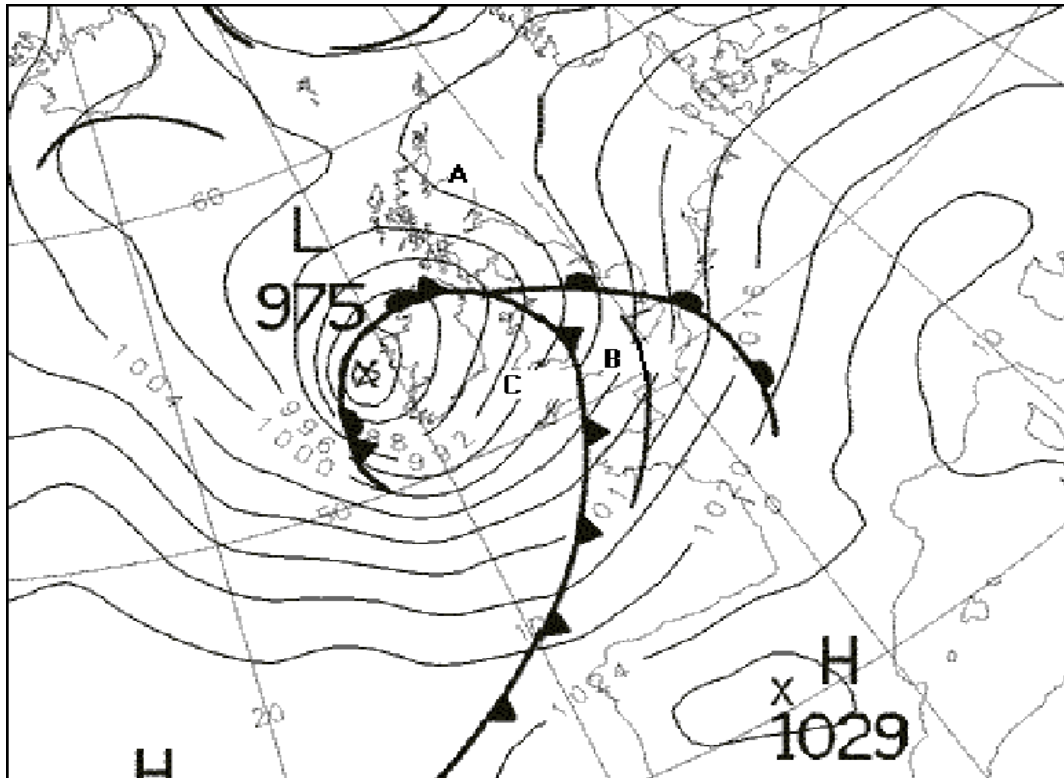
- i. Isobars
- ii. Ridge of High pressure
- iii. Wind circulation and direction
- iv. Cold front
- v. Warm front
- vi. Occluded front
- vii. Warm sector
- viii. Low pressure system

(20 marks)

Q6. Describe the typical weather conditions associated with Anticyclones.

(20 marks)

Chartlet to accompany Q5. section B



Student Name:

Note: Submit this page with your answer book.