

**CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS
ATLANTIC PROVINCES BOARD OF EXAMINERS FOR LAND SURVEYORS**

**SCHEDULE II / ITEM 2
HYDROGRAPHIC SURVEYING AND OCEANOGRAPHY**

October 2007

Note: This examination consists of 7 questions on 1 page.

Marks

Q. No

Time: 3 hours

Value Earned

1	Define each of the following: a) Beaufort Wind scale b) berth c) bifurcation d) outflow e) isogonic line f) gully g) groin (or groyne) h) windward i) undertow j) sea mile	20	
2	a) Using diagrams/sketches, describe thoroughly the tide effects caused by sun-moon-earth interaction. b) Why is the tidal range in the Bay of Fundy much larger than in the mid-Atlantic?	10 5	
3	Describe the process of installing a tide staff and automatic tide gauge as well as the data collection necessary to establish a sounding datum.	15	
4	a) How do you determine whether a co-tidal chart is required for a designated sounding survey? b) How and why do you collect bottom samples during the course of a hydrographic survey?	5 5	
5	Describe the operation of a single beam echo sounder, naming and sketching each component.	10	
6	a) Why and how do you calibrate a single beam echosounder? b) What are the major sources of error to be taken into consideration when obtaining a depth by single beam echosounder?	5 5	
7	A petroleum company wants to move a drilling rig into a shallow bay on the west coast of Newfoundland. A hydrographic survey is required to place the rig on location. Your company is going to submit a proposal (bid) to conduct the surveys and you are part of a team preparing the submission. Compile a list of questions/issues that you would have to address in order to prepare the documentation.	20	
	Total Marks:	100	