

OLLSCOIL NA hÉIREANN

NATIONAL UNIVERSITY OF IRELAND, GALWAY

SUMMER EXAMINATIONS, 1999

Third Year (Denominated B.Sc. Degree in Marine Science)*MR 311: Sensing and Sampling at Sea*Professor A. Eleftheriou
and the internal examinersTime allowed: *Two hours.*
Answer *three* questions.

1. Describe an example of a Eulerian and a Lagrangian technique to measure sub-surface currents. What are the advantages /disadvantages of each method and what problems are associated with each technique?

OR

What are the principal measurements that an oceanographer can make to 'sample' the sea from space? What quantities or parameters can each method yield?

2. Describe the methods of zooplankton sampling, the procedures for handling the samples at sea and in the laboratory, and the standardisation of data.
3. Describe techniques that may be used to estimate the euphotic depth.
4. Quantitative epifaunal sampling techniques are preferable to qualitative methods, but prove more difficult and costly. Discuss, giving examples.

OR

In the present climate of environmental awareness, non-destructive epifaunal sampling techniques are preferable to traditional destructive methods.

5. Critically evaluate the use of Sediment Profile Imagery in surveying/monitoring the soft seafloor.
6. Write an appreciation of the standard 0.1 m² benthic grab as a quantitative sampling device for the shallow, soft seafloor.
7. Discuss the statement that 'the Peruvian Anchovy is a classical example of the interaction of factors to be considered in managing a fishery'.