

*Ollscoil na hÉireann, Gaillimh*  
*National University of Ireland, Galway*

GX 1184

**Semester II Examinations, 2002/2003**

Exam Code(s)	2BA1;
	3EV1; 3EV2; 4EV2
Exam(s)	2 <sup>nd</sup> Arts
	B. Sc. Degree Environmental Science
Module Code(s)	TI 223
Module(s)	Introduction to GIS
External Examiner(s)	Professor M. Dunford
Internal Examiner(s)	Dr. C. Zhang
	Professor U. Strohmayer

**Instructions:** Answer **THREE questions** in total.  
Question 1 is **compulsory**, and answer **TWO** other questions  
All questions will be marked equally.

Duration	3hrs
No. of Answer books	1
No. of Pages	2
Department(s)	Geography

Answer **THREE questions** in total.

**Question No. 1 (Compulsory)**

1. What are the functions of the GIS software package ArcView? In your answer, please describe the specific tasks you can complete with the GIS software ArcView; and discuss the advantages and limitations of the software.

**Answer TWO of the following questions.**

2. What is GIS? Please answer this question with reference to its definition, functions, related disciplines, applications and components.
3. What is geographic data? Please answer this question with reference to GIS data types, concept of themes/layers, data elements and their features, concept of scale and generalization.
4. What are the 3 types of map projections and the 3 categories of geo-referencing system? Please explain the map projections with diagrams, the features of geo-referencing systems, and discuss UTM (Universal Transverse Mercator) system in detail.
5. What are the characteristics, advantages and disadvantages of raster and vector data models? What are rasterization and vectorization? Please explain run length encoding and quadtree encoding with diagrams.
6. Discuss data input in GIS with reference to data sources, methods of data input and data edit.
7. Explain the basic GIS analysis functions of measurements, queries, reclassification, buffering and overlay.