

OLLSCOIL na hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY

SEMESTER II EXAMINATIONS, 2000-2001

SECOND UNIVERSITY EXAMINATION IN ARTS

GEOGRAPHY

TI 221 Maps and Mapping

Weight: 5 ECTS

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Dr. C. Zhang

Professor U. Strohmayer

Time allowed: 3 hours

Question No. 1 (compulsory)

1. What can you do with the GIS software ArcView? Please describe the functions of Views, Tables, Charts, Layouts and Scripts based on the multi-media demonstration of "ArcView GIS showcase" and all the computer classes.

Answer THREE of the following questions.

2. Write a short essay on "what is GIS" with reference to its definition, functions, related disciplines, applications and components.
3. Discuss geographic data concerning their types, concept of themes/layers, data elements and their features, scale, and generalization.
4. Explain the 3 types of map projections, the 3 categories of geo-referencing systems and discuss the UTM system in detail.
5. Discuss the concepts, advantages and disadvantages of raster and vector data models; explain run length encoding and quadtree encoding with diagrams.
6. Describe attribute data management in GIS with reference to models of database, steps for database creation, functions of a DBMS, how attribute data are arranged, and the 2 operations for attribute data.
7. Discuss the basic analysis functions of measurement, queries, reclassifications, buffering and overlay.