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SCHEDULE I / ITEM 5   <u>**March 2005**</u>

DATA BASE MANAGEMENT SYSTEMS (INFORMATICS)

Note: This examination consists of 7 questions on 1 page.   <u>**Marks**</u>

<u>Q. No</u>	Time: 3 hours	<u>Value</u>	<u>Earned</u>
1	a) Define "Data Base Management System" b) Give three major reasons to use a DBMS c) Give two examples of applications for projects (*a*) in geodesy and (*b*) in GIS.	13	
2	In a relational or object-relational database management system: a) What are Primary Keys? b) What are Foreign Keys? c) What are Primary and Foreign keys used for?	12	
3	In a relational or object-relational database management system, or in a GIS: a) what is indexing? b) What is spatial indexing? c) Why do we use spatial indexing?	18	
4	How does the relational model handle the following relationships between tables: a) one-to-one? b) one-to-many? c) many-to-many? d) recursive one-to-many? e) one-to-many with attribute to the relationship? f) many-to-many with attribute to the relationship?	20	
5	a) What are integrity constraints? b) Give one example each of five different integrity constraints c) What are spatial integrity constraints? d) Give 3 examples of spatial integrity constraints.	24	
6	a) What is a system lifecycle? b) What are the steps required to develop a spatial database?	8	
7	a) What is UML? b) How can it help to develop spatial databases?	5	
	Total Marks:	100	