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SCHEDULE II / ITEM 5   <u>**October 2005**</u>

LAND INFORMATION SYSTEMS

Note: This examination consists of 9 questions on 1 page.   <u>**Marks**</u>

Q. No	Time: 3 hours	Value	Earned
1	The relational data model has been the most popular data model for DBMS. Explain, with examples, the relational data model. Show how a relational database can be used to store the spatial and attribute data for land parcels.	10	

2	Metadata is data about data.
	   a) Describe at least four of the data elements for metadata.
	   b) What are spatial metadata?
	   c) What are the benefits of using metadata from both the user and producer perspectives?
	   d) What are the major uses of metadata?
		14	

3	A data model is a description of the real world and data modeling is the process that formalizes the description at different levels of data abstraction. Discuss, with examples, three levels of data abstraction and models in GIS/LIS.	10	
4	Describe the map digitizing procedures of converting a paper map into a LIS/GIS database with topological data structure.	10	
5	What is a digital terrain model? Describe in detail the four commonly-used methods for collecting terrain data.	12	
6	How does "data transfer without a common transfer format" differ from "data transfer with a common transfer format"? Why is it so difficult to develop a universally acceptable standard for data interchange?	12	
7	Describe three key issues in implementing GIS/LIS and explain why you think they are important.	10	
8	What technical and non-technical challenges would you be facing as a manager of a computerized LIS?	12	
9	In your opinion, are there any benefits of integrating: (a) spatial data warehousing technology with LIS; or (b) mobile mapping technology with LIS? Select ONLY one technology to discuss.	10	
	Total Marks:	100	