

**CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS**

**SCHEDULE II / ITEM 5  
LAND INFORMATION SYSTEMS**

**October 2009**

**Note: This examination consists of 10 questions on 1 page.**

**Q. No**

**Time: 3 hours**

**Marks**

**Value   Earned**

1.	Define the following terms: (2 marks each) a) Geocoding b) Edge matching c) Feature identifier (FID) d) Rubber sheeting e) UTM (Universal Transverse Mercator)	10	
2.	Describe four key software components (groups of functions) of a GIS and identify any one of these which makes GIS different than simply a combination of CAD and Database Management Software.	10	
3.	Describe how the raster and vector approaches are used to construct and represent point, line and area features in GIS/LIS.	10	
4.	Give examples of GIS application, data, technology, and professional practice standards, where appropriate, and define and distinguish the following three types of standards: a) <i>de facto</i> standards; b) <i>de jure</i> standards; and c) regulatory standards.	12	
5.	How does a local operation differ from a neighborhood operation in GIS raster data analysis?	8	
6.	What is MBR? Explain how MBR is used in spatial search and analysis such as point-in-polygon operation.	10	
7.	What are the advantages and disadvantages of storing digital terrain in a TIN rather than in a DEM?	10	
8.	a) Define the following terms in conceptual database modeling using the entity-relationship (E/R) model: entities, entity types, relations, attributes, and cardinalities of relationships. An E/R diagram is required to facilitate your definitions.  b) What is the main purpose or use of developing an E/R model based conceptual model?	10  5	
9.	What are the major issues pertaining to people, the three categories of users identified in Chapter 1 of the textbook, in LIS/GIS implementation?	10	
10.	What are web services? Briefly explain how web services will affect the future development of a GIS or an LIS.	5	
	<b>Total Marks:</b>	100	