CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

C-5 GEOSPATIAL INFORMATION SYSTEMS

March 2011

Note: The use of calculators or similar devices is not permitted in this exam.
Note: This examination consists of 10 questions on 1 page.

Marks

Q. No	Time: 3 hours	Value	Earned
1.	Define what a GIS is and explain in what ways a GIS is different from other classes of information systems such as CAD/CAM, and accounting/banking information systems.	10	
2.	Define map projection and explain why a map projection is needed.	10	
3.	Explain the differences between conceptual, logical and physical data models.	10	
4.	Layers (or levels) are a fundamental means of organizing geographic data in almost all GIS. Why? Give an example layer of point, line and area features, respectively.	8	
5.	What is interoperability? List some advantages of interoperability for GIS software vendors and users.	10	
6.	Discuss the advantages of vector GIS data compared to raster data in terms of data representation, storage and analysis.	10	
7.	Explain, with example tables, the concept of a primary key in relational databases. Why is it important?	10	
8.	Define TIN and DEM. What are the advantages of storing digital terrain in TIN rather than in DEM?	10	
9.	Explain "geocoding" or "address matching". Why is geocoding an important geo-processing function?	10	
10.	a) As a data producer, why might you spend the time to create metadata? b) Explain how the current development of web mapping would affect or improve the daily work of land surveyors.	4 8	
	Total Marks:	100	