

CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

C5 – GEOSPATIAL INFORMATION SYSTEMS

March 2017

Note: This examination consists of 9 questions on 1 page.

Marks

<u>Q. No</u>	<u>Time: 3 hours</u>	<u>Value</u>	<u>Earned</u>
1.	There are many textbook-definitions of GIS. Do you think there is a working definition that one can use to test if a certain piece of software is a GIS or just some kind of mapping, drafting, image processing, or database management software?	10	
2.	Describe four methods of collecting geospatial data for GIS databases.	10	
3.	Compare the use of raster and vector formats for representing geographic data in terms of data storage, data retrieval, and data analysis.	14	
4.	GIS has long been using a “geo-relational data model”, sometimes called “hybrid data model”, to build its databases. Explain this model, with an example showing how spatial and attribute data are structured and stored in database.	14	
5.	What is “address matching”? Why is address matching an important vector geoprocessing technique?	10	
6.	What are the advantages of storing digital terrain in TIN rather than in grid-based or raster-based DEM?	10	
7.	You are asked to prepare a preliminary map that shows land parcels in a county that meet the following two criteria: 1) within 300 meters of streams, and 2) located in a conservation priority area. You are given three digital maps: one shows land parcels, one shows streams and one shows the priority areas. Describe the procedure that you will use to complete the task.	12	
8.	What is metadata for GIS datasets, and how can metadata help us share data?	10	
9.	What are the human issues, other than the computer issues, which we need to consider in operating a GIS?	10	
Total Marks:		100	