

CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

C5 – GEOSPATIAL INFORMATION SYSTEMS

March 2019

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

Marks

Q. No

Time: 3 hours

Value Earned

1.	A general-purpose database management system (DBMS) is supposed to handle all kinds of data, including spatial data, required in a geographic information system (GIS). If this is the case, why do we still need to develop specialized GIS software to handle spatial data?	10	
2.	Compare the use of raster and vector formats for representing geographic data in terms of data storage, data retrieval, and data analysis.	14	
3.	What is a digital terrain model and how is it created?	10	
4.	GIS has long been using a “geo-relational data model”, sometimes called a “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.	12	
5.	What is “address matching”? Why is address matching an important vector geoprocessing technique?	10	
6.	What are the components of spatial data quality?	12	
7.	What is metadata for GIS datasets, and how can metadata help us share data?	10	
8.	What are the human issues, other than the computer issues, which we need to consider in operating a GIS?	10	
9.	Your organization would like to implement GIS the first time. Describe the steps involved in evaluating and acquiring the proper GIS software.	12	
	Total Marks:	100	