

CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

C5 - GEOSPATIAL INFORMATION SYSTEMS

October 2021

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

Marks

Q.No

Time: 3 hours

Value Earned

<u>Q.No</u>		<u>Value</u>	<u>Earned</u>
1.	What four types of functions must all GIS include? Briefly describe each.	10	
2.	Explain the main difference between attribute and spatial data.	6	
	Give examples of attribute and spatial data.	4	
3.	Explain why layers are a fundamental means of organizing geographic data in almost all GIS, i.e., why we separate GIS data into layers.	4	
	Give and briefly describe 3 example layers in a vector-based GIS.	6	
4.	What are the advantages of raster-based overlay operations over their vector-based counterparts?	5	
	What are the disadvantages?	5	
5.	Use a diagram and explain the line-in-polygon overlay. Clearly describe the input, output, and operation of the overlay.	10	
6.	What are the advantages of storing digital terrain in TIN rather than in DEM?	10	
7.	Explain the following terms with special reference to geographic data: de facto standard and de jure standard. Give example standard(s) of each.	10	
8.	Describe each of the following concepts with reference to documenting spatial data accuracy: positional accuracy, attribute accuracy, logical consistency, and completeness.	10	
9.	According to Lo, C.P. and A.K.W., Yeung (2007) in Chapter 12 of Concepts and Techniques in Geographic Information Systems, what is the most critical people issue in implementing GIS?	6	
	What causes this issue?	4	
10.	List and describe three issues (or problems) that are most critical to the overall success or failure of a GIS project.	10	
	Total Marks:	100	