

CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

C5 – GEOSPATIAL INFORMATION SYSTEMS

October 2022

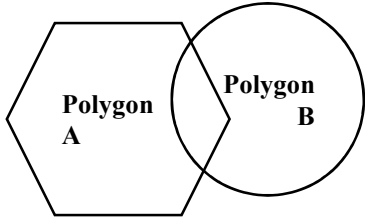
Note: This examination consists of 10 questions on 1 page.

Marks

Q. No

Time: 3 hours

Value Earned

1.	What are the major GIS functions?	5	
	What are the main components of a GIS?	5	
2.	What is Geocoding? Explain the concept and process of geocoding by address matching.	10	
3.	Compare and contrast raster and vector data models and suggest an application to which each data model would be best suited.	12	
4.	Why are layers (or map layers) a fundamental means of organizing geographic data in almost all GIS? Give an example layer of point, line and area features, respectively.	10	
5.	<p>Given the following two polygons in shapefile layers. Draw the output of the following operations and describe the content of the output layer's attributes table.</p> <p>a) Intersect b) Union</p> 	10	
6.	What is an entity-relationship data model? How is it used in the design of a GIS database? How is it different from a relational data model?	10	
7.	How does a local operation differ from a neighborhood (focal) operation in GIS raster data analysis?	8	
8.	Define the following terms: “accuracy”, “precision”, “error”, and “uncertainty”. Briefly describe five major components used to determine the “quality” of digital data when used in a data quality reporting scheme.	12	
9.	What is metadata? Why is the metadata important to GIS?	8	
10.	What are the human issues, other than the computer issues, which we need to be considered in operating a GIS?	10	
Total Marks:		100	