CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

E-1 SPATIAL DATABASES & LAND INFORMATION SYSTEMS October 2010

Note: This examination consists of 10 questions on 2 pages.   **Marks**

Q. No	Time: 3 hours	Value	Earned
1.	Explain the distinction between Geographic Information System and Land Information System	5	
2.	Give three examples of different types of JOIN that that can be created between two geospatial tables. (3 pts each)	9	
3.	Explain and illustrate with a sketch, the difference between these 2 spatial operators: a) Covered-by and Inside (or Within and Completely within) b) Contain and Inside (or Contain and Within)	3 3	
4.	Give three components of spatial data that require standardization (3 pts each)	9	
5.	Name and explain three levels of data sharing and give their corresponding system architecture. (4 pts each)	12	
6.	Explain three differences between Data Warehouses and Operational Databases. (3 pts each)	9	
7.	Using all the information on the map on page 2 of this exam, and on the legend, draw a conceptual spatial database model using UML or E/R modeling formalism. Your model must include classes (entities), attributes, geometries and enumeration (domain).	20	
8.	Explain three human and non-technical factors that can play a crucial role in the success or failure of a spatial database project.	9	
9.	Name and define two types of integrity constraints that can be implemented in a database. (2.5 pts each)	5	
10.	Define each of the following concepts (2 pts each): a) Primary key b) Datamart c) Relational Table d) CASE tool e) Data Definition Language (DDL) f) Integrity constraint g) Spatial index h) WMS	16	
	Total Marks:	100	

GOVERNMENT AND EDUCATION

Education Facility

- University
- College
- Post Secondary Institutions
- Public School - Primary
- Public School - Secondary
- Private School
- Elementary Schools

Government Services

PROPERTIES

1510   Addresses

Buildings 1

Buildings 2

Boundaries

TRANSPORTATION

Street Centreline

- Expressway
- Arterial
- Collector
- Local

NORTH

EAST

SOUTH

BARSE ST

CRANBROOKE AVE

WOBURN AVE

BEDFORD PARK AVE

DOUGLAS AVE

AVE

568 564 541 539
545 541A
549
555 553 551
56 559 557
565 660 656
666 664
676 672
581 680
585 700 698 692 688
708 704 655
734 732 663 659 651
740 738 736 687 683 677 671 665
742 695
8 588 580 576
719 717 592
721 602 598
733 729 612 604X
739
747 636 634 632 630 624
743 648 585 581
658 656 654 650
668 629 627 625 619 617
682 678 502 500
649 647 633 631 508 506
661 653 651 514 512
675 671 669 520 516
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530