FACULTY OF ENGINEERING AND ENVIRONMENT

DEPARTMENT OF GEOMATICS AND SURVEYING

COMPUTER APPLICATIONS 1

EGS 2106

Final Examination Paper

2021

This examination paper consists of 3 pages

Time Allowed: 3 hours

Total Marks: 100

Examiner's Name: Mr C. Musiiwa

INSTRUCTIONS

1. Answer **ALL** Questions.
2. Marks are as allocated on each question.
3. Use of calculators is permissible

	Question 1: Define the following terms using relevant examples	
1	a. FTP	**3**
	b. URL	**3**
	c. I.P address	**3**
	d. Array	**3**
	e. Network I.D	**3**
	f. FTP	**3**
	g. Intranet	**3**
	h. Desktop GIS	**4**
	Question 2: Algorithms and Flowcharts	
1.	In surveying, it is essential to understand the concepts of algorithms and flowcharts. Using these principles design flowcharts to solve the following problems;	
	a. Join computations for n observations.	**10**
	b. Closed link traverse using Bowditch method	**15**
	Question 3: Structured Query Language	
3	Given the following relations from a property database,	

Survey Record

municipalRegNo	bldg_ID	dateOfSurvey	Area	drawingNo
TRN500W	1080	1979/01/12	2000	DW/7S
TRN501W	1081	1970/08/15	3500	DW/2V
TRN502W	1082	2000/04/30	1500	DW/7T
TRN503W	1083	1990/08/15	3200	DW/9F
TRN504W	1084	1995/09/18	500	DW/87F
TRN505W	1085	2005/07/31	200	DW/92G
TRN506W	1086	2014/02/28	4000	DW/25D

Building Register

bldg_ID	StreetAddress	Suburb	Bldg_Type	Registration
1080	358 Df Malan Rd	Pretoria Central	Apartments	Lease
1081	63 Church St	Pretoria Central	Apartment	Sectional Titles
1082	1547 Luttig St	Pretoria West	Office Building	Freehold
1083	107 Jan Smit Ave	Mayvile	Office Building	Public Property
1084	245 Pretorius Rd	Pretoria Central	House	Freehold
1085	115 Lavender Rd	Wonderboom	Town House	lease
1086	23 Lynwood Rd	Hatfield	Office Complex	Sectional Titles

Registration

bldg_ID	regNumber	Use	dateOfReg	parcel_Owner
1080	75/21A	Residential	1983/06/05	Chihota
1081	87/31A	Residential	1975/08/10	Robins
1082	35/86B	Business	2002/11/24	Econet
1083	76/37B	Public Service	1998/07/12	Zimra
1084	182/78H	Residential	1997/12/15	Peters
1085	85/23TH	Residential	2015/11/27	Reynold
1086	104/39MU	Mixed	2016/09/15	Vodacom

Design SQL to perform the following operations;

i. Display all building owned by Reynold and Peters. **3**

ii. Display all building with residential use and area above 1500m2. **3**

iii. Display properties in Hatfield or surveyed after 01/01/1995 **4**

iv. Identify properties with residential use and surveyed after 01/01/1975 **4**

v. Display all buildings with area between 3001m2 and 4001m2. **4**

vi. Display all buildings with type office building. **3**

vii. Identify properties registered under lease and sectional titles and under residential use. **4**

Question 4: Website Design Using HTML (25

Recall and write an **HTML** code snippet which produces the *list* of Trigonometrical Beacons below.

1. 255/T
2. 145/S
3. 170/P
4. 200/T **10**

Complete the table below.

IP ADDRESS	CLASS	HOST ID	NETWORK ID
214.126.25.34	?	?	?
120.54.43.16	?	?	?
199.111.255.225	?	?	?
176.233.45.27	?	?	?
122.127.15.22	?	?	?

15