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UNIVERSITY OF NAMIBIA

FACULTY	AGRICULTURE, ENGINEERING & NATURAL SCIENCE		
DEPARTMENT	ENVIRONMENTAL SCIENCES		
SUBJECT	GIS AND REMOTE SENSING		
SUBJECT CODE	EBL5952		
DATE	OCTOBER/NOVEMBER 2021		
DURATION	3 HOUR	**MARKS**	**100**

REGULAR EXAMINATION

Examiner: Ms. C. Simataa (University of Namibia)

External Moderator: Professor Chris Chimimba (University of Pretoria)

This question paper consists of 3 pages, incl. cover page and 8 questions.

Instructions

Closed book examination
Read the questions carefully
Answer all questions in Section A and Only Two questions in Section B
Start each question on a new page

UNIVERSITY OF NAMIBIA EXAMINATIONS

SECTION A: COMPULSORY - ANSWER ALL QUESTIONS **(40 Marks)**

1. Explain any six of the following: (6 Marks)

   a. Geostationary satellites

   b. Geo-coded image

   c. DEM

   d. Layer

   e. Topology

   f. Metadata

   g. Geometric correction

   h. Swath

2. What are the potential impacts of the internet on Geographic Information Systems (GIS)? (4 Marks)
3. Explain the contribution of Remote Sensing to Geographic Information Systems (GIS). (8 Marks)

4. Discuss the properties of Cylindrical, Azimuthal and conical map projections, and propose and justify the types of projection maps you would use in a tropical landscape to produce relatively accurate maps. (12 Marks)

5. With reference to data-capture, management, analysis, and contribution to decision-making, discuss how Geographic Information System (GIS) was used in any application of your choice in the Biodiversity Management course. (10 Marks)

SECTION B: ANSWER ONLY TWO QUESTIONS

6. Using Figure 1 below, explain how models are used in the representations of the real-world phenomena inside a Geographic Information System (GIS). (30 Marks)

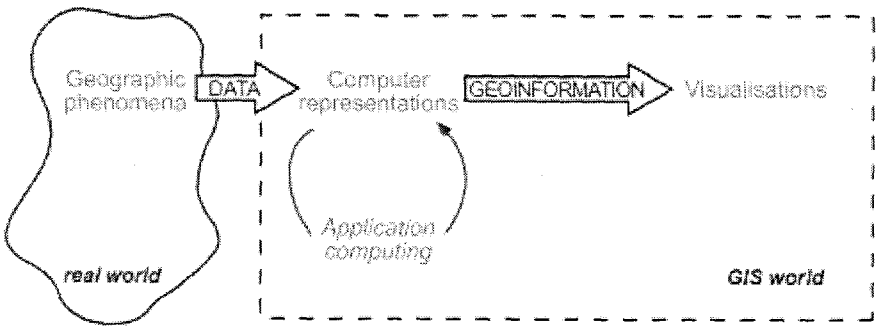

Figure 1: An illustration of relevant aspects of real-world phenomena inside a Geographic Information System (GIS).

7. Using illustrations where possible, discuss the key spectral features of vegetation reflectance across the 400-2500 nm wavelength range. (30 Marks)

8. With reference to the types of analyses that can be performed in a Geographic Information System (GIS), critically discuss the argument that spatial analysis is the core of GIS as a means of adding value to geographic data and turning it into useful information. (30 Marks)

[TOTAL MARKS: 100]

END OF QUESTION PAPER