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UNIVERSITY EXAMINATIONS 2023/2024

THREE YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN HEALTH SYSTEMS MANAGEMENT

NNH 3302: ENVIRONMENTAL GEOGRAPHICAL INFORMATION SYSTEMS

DATE: DECEMBER 2024   **TIME: 2 HOURS**

INSTRUCTIONS: Answer Question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

a) Define Geographical Information System (GIS) and briefly describe giving relevant its application in Public Health in Kenya and other parts of the world   (5Marks)

b) Giving examples, explain the different types of remote sensing platforms   (5 Marks)

c) Briefly describe the types of scattering that occur in the earth's atmosphere   (3 Marks)

d) Briefly describe two Spatial data structures and models are essential components of geographic information systems (GIS) analysis of various types of geospatial data

(4 Marks)

e) Explain the types of distortions that occur in different map projections as health data are displayed on the Earth's Surface   (4 Marks)

f) Briefly discuss how GPS and GIS can be used in Emergency Response and Disaster Management   (4 Marks)

g) Briefly discuss the 5 (five) major visual variables that allow distinguishing various cartographic symbolization in any given map   (5 Marks)

QUESTION TWO (20 MARKS)

Describe the factors that contribute to Global Positioning System machine errors in data capture.

(20 Marks)

QUESTION THREE (20 MARKS)

Discuss the importance and role of GIS in healthcare facility management and health resource planning. (20 Marks)

QUESTION FOUR (20 MARKS)

Describe the key components of a remote sensing system, and how they function together to collect information that can be used in Healthcare systems. (20 Marks)