JULIUS NYERERE SCHOOL OF SOCIAL SCIENCES

DEPARTMENT OF RURAL AND URBAN DEVELOPMENT

BACHELOR OF SCIENCE HONOURS DEGREE IN REGIONAL AND URBAN PLANNING

LEVEL 2 SEMESTER 1

EXAMINATION QUESTION PAPER

MODULE CODE	**RUPH213**
MODULE NARRATION	**GEOGRAPHIC INFORMATION SYSTEM (GIS) AND EARTH OBSERVATION 2**
DATE	**2025**
DURATION	**2 HOURS**

INSTRUCTIONS TO CANDIDATES:

1. **Answer three questions.**
2. **Section A is compulsory**
3. **Each question carries 25 marks.**

AUTHORISED MATERIALS:

Scientific Calculator

Section A (Compulsory)

1. Figure 1 below shows the boundaries and pegs (A, B, C, D, F.G and H) for a proposed housing development project. Use the Gauss's formula to calculate the area of the farm in a computer-based GIS.

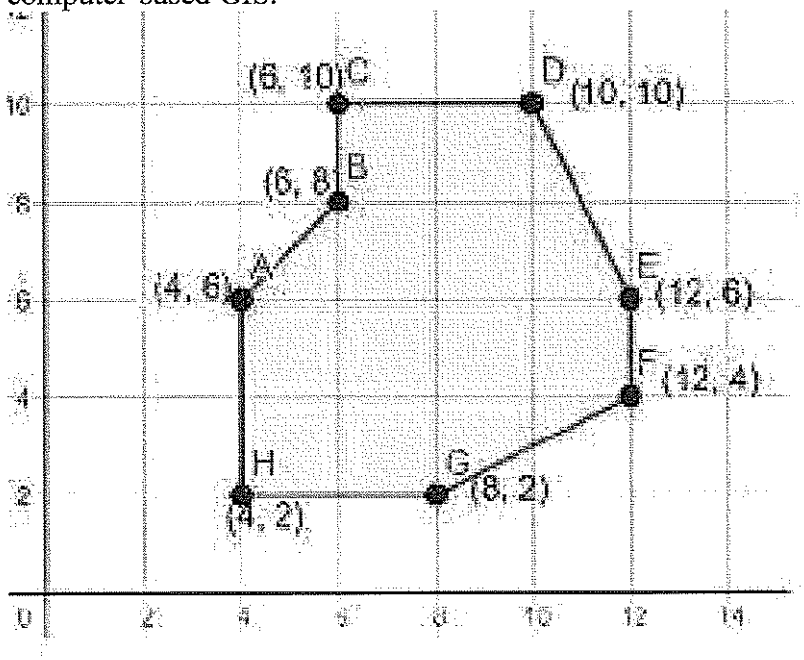

Figure 1

Section B

2. With reference to a calculated example, explain the utility of spectral indices in regional and urban planning.
3. Using a practical example, explain the utility terrain analysis in urban flood risk modelling.
4. With reference to calculated examples, outline the key steps in measuring land use conformity.
5. Using practical examples explain the application of network analysis urban planning in a GIS.

END OF PAPER