

# Geo-Informatics in Earth Science, Tectonic Hazard and Infrastructure Management

## Quiz 1

### Full Marks: 17

#### Part A: Short Answer

1. What is the specific name of data science the GIS specialist can be involve in. Give at least two example or component of it after naming. (3 mrks).

Data Science Name: **Spatial Data Science**

- I. **Google Earth Engine**
  - II. **GIS Web Application**
  - III. **Java, Python**
  - IV. **Cloud Computing**
2. What are the different data type for earthquake? List them down. (2 marks)
    - (a) **Earth quake Depth**
    - (b) **Earth Quake Magnitude**
    - (c) **Peak Ground Acceleration (PGA)**
    - (d) **Peak Ground Velocity (PGV)**
  3. What are the 2 common types of convergent boundaries that you can think of? (2mrks).
    - (a) **Oceanic vs Oceanic**
    - (b) **Continental vs Oceanic**
  4. List down any 2 types of smaller plates that PNG has (2 mrks)
    - (a) **South Bismark Plate**
    - (b) **Solomon Sea Plate**
    - (c) **Woodlark Plate**
    - (d) **North Bismark Plate**
  5. What are the types of Surface Waves? Provide full name for each (2 mrks).
    - (a) **Rayleigh Wave**
    - (b) **Love Waves**

6. State down one preferences for seismic micro-zonation (2 mks).

1. To produce microzonation maps to be used mainly for city and land use planning
2. To use the microzonation maps to estimate the possible earthquake characteristics for the assessment of structural vulnerability in an earthquake scenario study
3. To provide input for the earthquake design codes.

**Part B: True/False**

1. ‘S’ waves travel through Solid Liquid and Gas ..... (True/False). (1mk)
2. Seismic Waves are more highly amplified in well consolidated sediments than Bay mud ..... (True/False). (1mk).
3. Earth Science also covers in detail the theory of ecosystem impact..... (True/False). (1mk).
4. Tsunami is not classified under tectonic hazard..... (True/False). (1mk).