

**BONDO UNIVERSITY COLLEGE**  
**SCHOOL OF HEALTH SCIENCES**  
**PSP 3214: GEOGRAPHIC INFORMATION SYSTEMS**  
**YEAR 2 SEMESTER 1 (SEPT-DEC 2012)**

**Section A: Answer ALL Questions (Total 30 marks)**

1. Briefly outline any three requirements of a comprehensive GIS. (3 mks)
2. Explain any three disciplines that have contributed to the development of GIS. (3mks)
3. Explain three areas of application of GIS as a decision support tool in public/ community health. (3 mks)
4. With the aid of an example, briefly describe the raster as a GIS data format. (3 mks)
5. Explain the six basic components of a functional GIS. (6 mks)
6. Explain any six spatial data clean-up operations you can carry out on spatial data after digitizing. (6 mks)
7. Identify and explain the three golden rules of data integrity that relational database instance must adhere to. (6 mks)

**Section B: Answer any TWO Questions (20 marks each)**

1. Explain any **FOUR** measurement scales citing relevant examples in each case. In each case, identify the kind of mathematical operation that can be carried out on data represented. (20 Mks)
2. Identify and discuss **FIVE** data quality components that you must consider when dealing with GIS data. (20 Mks)
3. You have obtained an existing printed disease map and you have to capture its spatial data into your GIS. The resulting map has to be a vector map with meaningful attributes assigned to each drawing object. Please indicate the correct sequence of steps to follow. (20 Mks)
4. Citing relevant examples from public/ community health, describe any **FOUR** types of spatial analyses you would carry out using GIS. (20 Mrks)