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# **UNIVERSITY OF KABIANGA**

**UNIVERSITY EXAMINATIONS**

**2014/2015 ACADEMIC YEAR**

**THIRD YEAR SECOND SEMESTER EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRO-FORESTRY AND RURAL DEVELOPMENT**

**COURSE CODE: FOR 321**

**COURSE TITLE: COMPUTER APPLICATIONS**

***DATE: 27TH APRIL, 2015* *TIME: 2 P.M- 5 P.M***

**INSTRUCTIONS:**

***ANSWER QUESTION ONE AND ANY OTHER THREE QUESTIONS.***

***INCLUDE ILLUSTRATIONS WHERE APPROPRIATE***

**Question One**

1. Describe the functional capabilities of a geographical information system. (5 marks)
2. Explain the application of geographic information systems (GIS) in survey of natural resources. (4 marks)
3. Identify **three** computer specifications that should be considered before installation of a GIS. (6 marks)
4. Describe the first four generation of computers. In each case, clearly explain the technology that was in use and its capability. (8 marks)
5. Discuss four strengths of using computerized database over traditional filing systems. (8 marks)

**Question Two**

1. Distinguish between ***forest management planning*** and ***forest management control***. Give an example in each case. (5 marks)
2. Describe the process of forest management planning. Use relevant examples for clarifications. (8 marks)

**Question Three**

1. Highlight **four** components that contribute towards sustainable use of forestry resources. (8 marks)
2. Discuss how analysis and reporting of forest activities can be done using a computer application program. (5 marks)

**Question Four**

1. Discuss **four** benefits of using GIS in management of natural resources. Use appropriate examples for clarification. (8 marks)
2. Given a task to develop a forest management system for Mau forest, explain the major steps you take towards developing this system for successful implementation. (5 marks)

**Question Five**

1. Explain the use of database in digitals maps and GIS. (3 marks)
2. Distinguish between vector and raster data. (4 marks)
3. Two learners from a school in Paarl have an assignment and have to take photographs of the Berg River. One has a 2.0 megapixel camera and the other has a 3.5 megapixel camera. The resolution of the photographs taken by the boys will differ.
4. Explain the meaning of the term resolution. (2 marks)
5. Which one of the cameras will take better quality pictures? Explain your answer. (2 marks)
6. Heavy rainfall sometimes results in flooding along the Berg River. How could the local government use GIS to manage this disaster? (2 marks)