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**University Examinations 2014/2015**

SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE FOOD SCIENCE, BACHELOR OF SCIENCE FOOD SCIENCE AND NUTRITION AND BACHELOR OF HORTICULTURE

**CIT 3292: INFORMATION TECHNOLOGY II**

 **DATE: APRIL 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Define the term Algorithm (2 Marks)
2. Identify and briefly explain any four properties of algorithms (4 Marks)
3. Algorithms are very important in computer technology. Discuss any four advantages of algorithms (4 Marks)
4. Discuss the function of the following network devices: (3 Marks)
5. Switch
6. Hub
7. Router
8. Internet provides a number of services, briefly describe peer-to-peer service in this context

(2 Marks)

1. Describe the three reasons that make information technology important to the success of a business (6 Marks)
2. Define the term protocol as used in data communication and networking (1 Mark)
3. Explain two advantages and two disadvantages of being able to work from home or far away from office for (8 Marks)
4. An individual
5. The company

**QUESTION TWO (20 MARKS)**

1. Discuss the following types of communication networks: (6 Marks)
2. Wide Area Network
3. Local Area Network
4. Metropolitan Area Network
5. Highlight any three differences between flowcharts and algorithms (3 Marks)
6. Design a flowchart and an algorithm to check for even or odd number (8 Marks)
7. Highlight ethical issues that arise with use of Information Technology (3 Marks)

**QUESTION THREE (20 MARKS)**

1. As a manager discuss how Information Technology can help you in decision making

 (8 Marks)

1. Highlight five ways a firm can use Information Technology to achieve competitive advantage (10 Marks)
2. Give two reasons why computers are networked (2 Marks)

**QUESTION FOUR (20 MARKS)**

1. With suitable illustrations, explain the following network topologies (6 Marks)
2. Star
3. Ring
4. Bus
5. The Kenya government is linking all counties with a fibre optic cable
6. How will the linkages created by the fibre optic cable accelerate growth of Kenyan economy (4 Marks)
7. Identify any four advantages of using fibre optic cable over coaxial cable

(4 Marks)

1. Distinguish between a twisted pair cable from a coaxial cable (4 Marks)
2. Design an algorithm to compute the area of a triangle given three sides of the triangle a,b and c (4 Marks)

**QUESTION FIVE (20 MARKS)**

1. Internet has become a global information super high way. Discuss how this has been made possible (8 Marks)
2. Discuss any three characteristics of valuable information (3 Marks)
3. Briefly explain how the following major business functions rely on Information

Technology (3 Marks)

1. Sales and Marketing
2. Manufacturing
3. Finance
4. Discuss three powerful changes that have altered the business environment business calling Information Technology into action (6 Marks)