COMPUTER NETWORKS (DCIS 121) (DBIT 223) 3RD TRIMESTER 2014

**KENYA METHODIST UNIVERSITY**

**END OF 3'***rd '***TRIMESTER 2014 (FT) EXAMINATION**

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| **FACULTY** |   | : | COMPUTING & INFORMATICS |
| **DEPARTMENT** | : | COMPUTER SCIENCE AND BUSINESS |
|  |   |   |   | INFORMATION |
| **UNIT CODE** |   | : | DCIS 121/DBIT 223 |
| **UNIT TITLE** | : | COMPUTER NETWORKS |
| **TIME** |   |   | : | 2 HOURS |

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**INSTRUCTIONS**

*Answer question one and any other two questions*

**Question One (30 marks)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| * Define a computer network.
 |   |   |   |   |   | (2 Marks) |
| * Give three benefits that organizations achieve from the use of computer networks.
 |   |   |   |   |   |   |   |   | (3 marks) |
| * Briefly describe the following terms;
 |   |   |   |   | (10 Marks) |

* Network topology
* Bandwidth
* Network protocol
* Noise
* Maximum segment length
* Network services may be classified into several categories. State and briefly describe three of these categories, giving an example in each case. (9 marks)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * With the help of a diagram describe the three major network topologies.
 |   |   |   |   |   |   |   |   |   |   |   | (6 marks) |

**Question Two (20 marks)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * With the help of a diagram, describe the ISO/OSI model for network communication.
 |   |   |   |   |   |   |   | (14 Marks) |
| * State and briefly describe the three types of network standards.
 | (6 marks) |

**Question Three (20 marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * Computer networks may be classified in five types based on their size and scope, state and briefly describe these types.
 |   |   |   | (10 marks) |
| * Describe the following terms:-
 |   |   |   |   |   | (10 marks) |

* Client
* Server
* Network host
* Service data unit
* Datagram

**Question Four (20 marks)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * Briefly describe the five classes of IP addresses giving an example in each case.
 |   |   |   |   |   |   |   |   |   | (15 marks) |
| * Define routing and state three types of routing algorithms.
 | (5 Marks) |