INTORDUCTIONTO COMPUTER NETWORKS (CISY 131) (BBIT 241) (DBIT 223) (DCIS 121) 2ND TRIMESTER 2015

**KENYA METHODIST UNIVERSITY**

**END OF 2'***ND '***TRIMESTER 2015 (FT) EXAMINATION**

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| **FACULTY** |  | : | COMPUTING & INFORMATICS | |
| **DEPARTMENT** | | | : | COMPUTER SCIENCE & BUSINESS INFORMATION |
| **UNIT CODE** |  | : | BBIT 241/CISY 131/ DBIT 223/ DCIS 121 | |
| **UNIT TITLE** | | | : | INTRODUCTION TO COMPUTER NETWORKS |
| **TIME** |  |  | : | 2 HOURS |

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**Instructions: Answer question one and any other two questions.**

**Question One**

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| * Describe the following terminologies as used in networking. | (6mks) |

* ARQ
* NOS
* UDP
* Frame
* Ssh

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| * The internet has become a basic tool for communication today. Sketch with an appropriate diagram the role of the internet using a layered model protocol to facilitate this communication process. |  |  | (10mks) |
| * What is a router? Discuss in details the layer which it operates on and state atleast one protocol that facilitates the process. | | | (5mks) |
| * Discuss the concept behind ATM networks. |  |  | (5mks) |

* Provide one IEEE standard and give its strengths and weakness. (5mks)

**Question Two**

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| * NIC is an important tool in networking. What is it? Provide two functions of NIC. |  |  |  |  |  |  |  |  |  | (5mks) |
| * Identify and discuss three physical characteristics of fibre optic cables that make them more suitable for high speed digital data transmission than copper cables. | |  |  |  |  |  |  |  |  | (6mks) |
| * Explain the main functions of the protocols operating at the physical and transport layers of the ISO reference model. | | | | | | |  |  |  | (6mks) |
| * What is a peer to peer network? Illustrate your answer. | | | | | | | | |  | (3mks) |

**Question Three**

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| * The data link layer has two sublayers. Identify the layers and discuss the functions performed by each of the sublayer. |  |  |  | (6mks) |
| * What are open standards? Do we really need them? | | |  | (5mks) |

* Discuss the differences between multicasting and broadcasting. (5mks)

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| * Explain why CSMA/CD requires a restriction on frame size for it to work. |  |  |  |  |  |  |  |  |  |  |  | (4mks) |

**Question Four**

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| * Discuss the GO back n technique and provide two benefits it has in telecommunication. | | | | | | | |  |  |  |  |  |  |  | (5mks) |
| * Network security is an essential role that a network administrator cannot overlook. Discuss how this role can be implemented in an organization of your choice. | | | | | | |  |  |  |  |  |  |  |  | (5mks) |
| * Unbounded media is becoming the most popular media in telecommunications today. Discuss. | | | | | | | | | | |  |  |  |  | (10mks) |
| * Unbounded media is becoming the most popular media in telecommunications today. Discuss. |  |  |  |  | (5mks) |  |  |  |  |  |  |  |  |  |  |