



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2016/2017**

**SECOND YEAR SECOND SEMESTER EXAMINATION  
FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
INFORMATION TECHNOLOGY**

**CITY CAMPUS – EVENING**

**CIT 204: DATA NETWORK ADMINISTRATION AND  
MANAGEMENT**

Date: 15<sup>th</sup> June, 2017

Time: 5.30 - 8.30pm

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**INSTRUCTIONS:**

- Answer Question ONE and any other TWO
- Start each question on a new page
- Mobile phones are prohibited in the Examination room
- Do not write on the question paper

### Section A

Qn 1: (30 Marks)

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- a) Briefly describe what you understand by the term Network Administration? **3Mks**
- b) You are likely to be shortlisted as Maseno University Network administrator. Highlight at least five characters the interviewing panel would like to get from you. Base your argument on your answer in a) above **6 mks**
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- c) Security of information in a network environment is paramount. Discuss various security network administration tasks you might have. **6 mks**
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- d) What do you understand by the term Network management? **2 mks**
- e) Briefly discuss various network management aspects you would perform in an institution of higher learning like Maseno University. **6 mks**
- f) TCP/IP and OSI are both network reference models. As network administrator, Justify why you would consider to use TCP/IP and not the OSI model? Take a stand in your argument **7mks**.

### Section B

2. a) What do you understand by the term protocol with regard to computer networks? **2mks**
- b) Using the TCP/IP protocol illustrate with a diagram how information flows between two host devices(Source and Destination) **8 mks**
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- c) Explain the concept of fragmentation as used in the TCP/IP in flow control **5mks**
- d) Two computers are communicating in a network using TCP/IP . Show by an illustration how a 3-way handshake is realized **5 mks**
- 3 a) As an employee of Maseno university, you are requested by the ICT directorate to implement the

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following services within the university. Printing, Web and active directory. Describe how you plan to undertake the task stating what you would require. **10 mks.**

b) The university network is under threat. As a network administrator, describe how you would perform various network backup and recovery operations to avert or recover from the disaster **10mks.**

4 (a). Discuss the main motivation factors for network management in corporate organizations. **8 marks**

(b). Using Simple Network Management Protocol as a standard in your Network management activities, discuss the various models you may implement for an institution like Maseno University. **12 marks**