



**TECHNICAL UNIVERSITY OF MOMBASA**  
**INSTITUTE OF COMPUTING AND INFORMATICS**

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Select department

**UNIVERSITY EXAMINATION FOR:**

**BBITSEP2015/J-FT**

**EIT 4209: NETWORK SYSTEM ADMINISTRATION**

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: SEPTEMBER 2018**

**TIME: 2HOURS**

**DATE: Sep 2018**

**Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other **TWO** questions.

**Do not write on the question paper.**

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**Question ONE**

- a) Differentiate between the following terms as used in network system administration: (20 marks)
- i) Object and Organizational unit
  - ii) Tree and Forest
  - iii) Disk partitioning and disk formatting
  - iv) A local and a domain account
  - v) Classful IP and classless IP addressing
- b) By citing an example in each case, differentiate between the following terms:
- i) Network address and broadcast address (4 marks)
  - ii) Loop back address and auto – configuration range (4 marks)
- c) Highlight any **two** code of ethics that a network administrator should observe. (2 marks)

**Question TWO**

- a) The system administrator can choose various password options to protect access to a domain. Describe **two** such options. (4 marks)
- b) Topologies associated with LANs are: the bus, ring and star topologies. Describe each one, highlighting their strengths and weaknesses from a reliability point of view. (12 marks)
- c) Differentiate between a shared and a network printer. (4 marks)

### Question Three

- a) Explain the functions of the following devices as used in networking. (8 marks)
- i) Router
  - ii) Bridge
  - iii) Gateway
  - iv) Repeater
- b) A host has an IP address of 192.168.0.70/26. (12 marks)
- i) Write down its subnet mask in a decimal dotted notation
  - ii) What is the network address of the second range?
  - iii) What is the broadcast address of the third range?
  - iv) What is the range of the valid IP addresses in the fourth range?
  - v) Write one useable IP address in a slash notation from the second range
  - vi) What are the total numbers of hosts that can be obtained?

### Question Four

- a) Explain any **three** types of user profiles. (6 marks)
- b) State and explain **five** components of the network analyzers. (10 marks)
- c) Differentiate between a client – server and a peer – to – peer model. (4 marks)

### Question Five

- a) Using a well labeled diagram, explain the roles of each OSI reference model layer in network administration. (16 marks)
- b) Highlight any **four** likely causes of a network connection failure. (4 marks)