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TECHNICAL UNIVERSITY OF MOMBASA
INSTITUTE OF COMPUTING AND INFORMATICS

Select department

UNIVERSITY EXAMINATION FOR:
DICT/SEP2017/J-FT, DICT/SEP2017/S-FT
EIT 2207: NETWORK DESIGN & IMPLEMENTATION
END OF SEMESTER EXAMINATION
SERIES:AUGUST2019
TIME:2HOURS
DATE:Pick DateAug2019

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 any **THREE** questions. **Do not write on the question paper.**

Question ONE

- a) State and explain the functions of any six networking devices that you will encounter when you visit any networking environment. (12 marks)
- b) Differentiate between the following terms
 - i) Collision domain and broadcast domain (4 marks)
 - ii) MAC and IP addresses. (4 marks)

Question TWO

- a) Using a diagram, explain the Network Design and Implementation Cycle. (14 marks)
- b) Network performance refers to how efficiently the network responds to users' needs. State and explain three reasons why network administrators hate network performance problems. (6 marks)

Question THREE

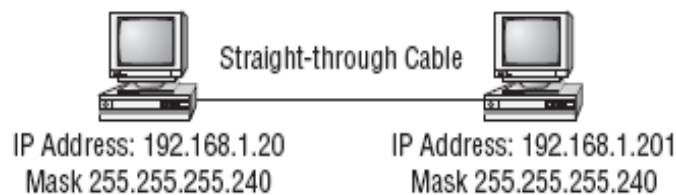
- a) Describe the **five** functional areas of network management as mentioned by the International Organization for Standardization (ISO) Network Management forum. (10 marks)
- b) An internal client has an IP address of 10.0.1.150. When this address tries to communicate with an outside network; your NAT device translates it to the first available address in the range of 202.0.1.150 to 202.0.1.100. Explain. (6 marks)
- c) Highlight **four** roles of a network interface card. (4 marks)

Question FOUR

- a) 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)
- 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)

Question FIVE

- a) A network administrator is connecting hosts A and B directly through their Ethernet interfaces, as shown below. Ping attempts between the hosts are unsuccessful. What can be done to provide connectivity between the hosts? (4 marks)



- b) Explain any **five** likely causes of a network connection failure. (10 marks)
- c) By citing **one** advantage and **one** disadvantage in each case differentiate between peer – to – peer and client – server model. (6 marks)