

KENYA METHODIST UNIVERSITY  
END OF TRIMESTER I EXAMINATION, APRIL 2009

FACULTY : ARTS AND SCIENCES  
DEPARTMENT : COMPUTER INFORMATION SYSTEMS  
UNIT CODE : CISY 331  
UNIT TITLE : NETWORK ADMINISTRATION I  
TIME : 2 HRS

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**Instructions:** Answer question one and any other two questions from section B

**SECTION A – Answer ALL question in this section**

**Question One (30 marks):**

- 1) Briefly describe the following terms as used in network administration:
  - a) Subnet mask
  - b) Loopback address
  - c) Network address (6 marks)
- 2) Briefly outline the three main roles played by the network adapter card (NIC) in network communication. (3 marks)
- 3) What is the role of DHCP in network administration? (2 marks)
- 4) Distinguish between a static and dynamic IP addresses. (2 marks)
- 5) Briefly describe the Gateway Services for Netware (GSNW) and outline its role in a windows 2003 based network. (4 marks)
- 6) Briefly describe the Internet Information Services (IIS). How does IIS 6.0, used in windows server 2003, differ from IIS 5.1? (3 marks)
- 7) Windows server 2003 supports two licensing modes. Distinguish between these two modes (2 marks)
- 8) What is Internet Connection Sharing (ICS)? (2 marks)
- 9) State the two protocols used in the implementation of IP security. (2 marks)
- 10) Briefly describe two user password requirements for windows server 2003 domain (2 marks)
- 11) Consider the IPv4 address 243.9.17.0. Give the IPv6 representation of the address (2 marks)

**SECTION B – Answer ANY TWO questions in this section**

**Question Two (20 marks):**

- 1) Briefly describe the three main private address blocks as defined by RFC 1597 (6 marks)
- 2) Briefly describe the following roles in network administration:
  - a) Network manager
  - b) Network technician (4 marks)
- 3) IPv6 addresses differ from IPv4 in several aspects. Describe any two of the differences (4 marks)
- 4) One of the key decisions to make before installing windows server 2003 is the type of installation to make. Briefly describe the two options. (4 marks)
- 5) Briefly describe the following WINS server configuration options:
  - a) Renewal interval
  - b) Extinction interval. (4 marks)

**Question Three (20 marks):**

- 1) Briefly describe how you would create a new user account in windows server 2003 (5 marks)
- 2) State any three network services for windows clients (3 marks)
- 3) An organization is given the CIDR address 213.3.17.0/27
  - a) Determine the subnet mask for this address (2 marks)
  - b) Give the address range supported by this address (3 marks)
- 4) Briefly describe the following terms as used with active directory service;
  - a) Forest
  - b) Non-transitive trust (4 marks)
- 5) Firewalls can be configured either as circuit level proxies or packet level proxies. Briefly describe these two options. (4 marks)

**Question Four (20 marks):**

- 1) Distinguish between Basic NAT and PAT (2 marks)
- 2) Give any two types of NAT (2 marks)
- 3) The typical network administration workload is divided into three categories. State the three categories (3 marks)

- 4) State any two aspects involved in the change management process (2 marks)
- 5) DHCP in windows server 2003 is made up of three basic components. State and briefly describe the components (6 marks)
- 6) A key enhancement to DHCP in windows server 2003 is the integration of DHCP with DNS;
  - a) What is the importance of this integration? (2 marks)
  - b) Outline the three options for avoiding failed DNS lookups for DHCP-registered clients when using static DNS service (3 marks)