

STREAM: Y2S1

TIME: 3HRS

EXAMINATION SESSION: DEC

DATE: 7/12/ 2016

INSTRUCTIONS

Section A is compulsory and has 30 marks.

Attempt any TWO questions from Section B. Each question has 20 marks.

QUESTION ONE (30 MARKS)

- a) The IP protocol and its associated routing protocols are possibly the most significant of the entire TCP/IP suite. Explain the responsibility of the IP protocol in the TCP/IP suite. (5 marks)
- b) Explain any five different types of networks you are familiar with. (5 marks)
- c) List and explain any five different type of network topology (5 marks)
- d) What is a Protocol? List any five properties of most protocols (5 marks)
- e) As a network administrator explain How DNS works in theory (5 marks)
- f) Explain the different Factors That Determine the Necessity of a Name System (5 marks)

QUESTION TWO (20MARKS)

- a) State any four Features of the User Datagram Protocol (UDP) (2 marks)
- b) Briefly explain the three Security management Concepts below: (2 marks)
 - i. Confidentiality
 - ii. Integrity
 - iii. Availability
 - iv. Non-Repudiation

- c) Explain any two types of Routing Algorithm used in today's computer networks (2 marks)
- d) Briefly explain the SNMP and DHCP and protocols (2 marks)
- e) State any four UDP application areas (2 marks)

QUESTION THREE (10 MARKS)

- a) Explain with an example the Class A - IP Addressing (2 marks)
- b) Explain any four Routing Algorithm design Goals (2 marks)
- c) Networking involves so many issues that require standardization. Name any four. (2 marks)
- d) What are the Factors to Consider when choosing a Medium (2 marks)
- e) Briefly explain IP Session Hijacking (2 marks)

QUESTION FOUR (10 MARKS)

- a) As a network engineer Explain the ICMP Protocol (2 marks)
- b) Explain any four advantages of Computer Networks(2 marks)
- c) Explain the Fiber Distributed Data Interface (FDDI) network protocol (2 marks)
- d) State any four Features of the Transmission Control Protocol (TCP) (2 marks)
- e) List any four disadvantages of Computer Networks (2 marks)

QUESTION FIVE (10 MARKS)

- a) What is the difference between DNS servers and DNS resolvers (2 marks)
- b) As an ICT manager at Safaricom Ltd explain any four Internetworking challenges (2 marks)
- c) Briefly explain the Interior gateway protocols and Exterior gateway protocols giving examples. (2 marks)
- d) State and explain the different Parts of a Domain Name (2 marks)
- e) Explain the following terms as used in networking. (2 marks)
 - i. IP Address
 - ii. Subnet
 - iii. Subnet Mask
 - iv. Network Interface Card (NIC)