

# JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

# SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

# DEPARTMENT OF COMPUTER SCIENCE & SOFTWARE ENGINEERING

# UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN SECURITY AND FORENSICS

# 2ND YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR

# KISUMU LC

# COURSE CODE: IIT 3216

# COURSE TITLE: TCP/IP NETWORK ADMINISTRATION

# EXAM VENUE: STREAM: COMPUTER SECURITY & FORENSICS

# DATE: EXAM SESSION:

# TIME:

# INSTRUCTIONS

# Answer Question 1 (Compulsory) and ANY other TWO questions

# Candidates are advised not to write on the question paper

# Candidates must hand in their answer booklets to the invigilator while in the examination room

**QUESTION ONE [30 MARKS]**

1. What does the acronym TCP/IP stand for? 1 mark
2. Routers operate at which layer of the OSI model? 1 mark
3. Bits are packaged into frames at which layer of the OSI model? 2 mark
4. What is a Request for Comments (RFC)? 2 marks
5. Which organization publishes Internet Protocol standards? 2 marks
6. What is the role of the Domain Name System? 2 marks
7. What is a ‘fully qualified domain name’ (FQDN)? Give an example 2 marks
8. List any three email protocols 3 marks
9. What is DHCP in full? How is DHCP used in a network? 2 marks
10. What is Data Encapsulation? 2 marks
11. What is the function of application layer? 2 marks
12. This a windows diagnostic tool that provides information about the basic configuration of the interface. It is useful for detecting bad IP addresses, incorrect subnet masks, and improper broadcast addresses………………………… 2 marks
13. This windows diagnostic tool that provides information about the DNS name service…….. 2 marks
14. List the three classes of IP addresses 3 marks
15. The layers of the OSI model, from the top down 2 marks
16. application, presentation, session, transport, network, data link, physical
17. session, presentation, data transport, MAC, network, physical
18. physical, data link, network, transport, session, presentation, application
19. presentation, application, session, network, transport, data link, physical
20. application, encryption, network, transport, logical link control, physical

**QUESTION TWO [20 MARKS]**

1. List any four benefits of IPv6 over IPv4 4 marks
2. What are the 3 major differences between OSI and TCP/IP model? 6 marks
3. List and explain any five reasons for sub-netting (maybe topological or not) 10 marks

**QUESTION THREE [20 MARKS]**

List and briefly explain any three advantages of NAT 6 marks

Explain advantages of networking in an organization 14 marks

**QUESTION FOUR [20 MARKS]**

1. The List and briefly explain any four types of networks 8 marks
2. Explain any 4 roles of IAB in the management of the internet? 8 marks
3. Enumerate guidelines one can follow when setting up TCP/IP email networks 4 marks

**QUESTION FIVE [20 MARKS]**

1. List the components that found in the Windows NT 4.0 Internet Information Server(IIS) 4 marks
2. List any four functions of the Internet Protocol 4 marks
3. List and explain any three features of TCP/IP protocol that made it dominant over the internet? 6 marks
4. List and explain the three distinct types of security threats usually associated with network connectivity 6 marks