



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT

UNIVERSITY EXAMINATION FOR:

Diploma in Telecommunication & Information Engineering

ETI 2307: Computer Networks III.

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: DECEMBER 2016

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) Define a GOOD Network Design (4 marks)
- b) Explain the following Network Design Methodologies (6 marks)
 - i. Top-Down
 - ii. Bottom-Up
- c) Discuss Advantages and Disadvantages of Top-Down approach in Network Design. (10 Marks)

Question TWO

- a) Explain FIVE Major Network Design Phases. (10 marks)
- b) Draw and Briefly Explain Cisco PDIOO Network Life Cycle. (10 Marks)

Question THREE

- a) Name TWO Categories of Network Design Requirements /Goals. (1 marks)
- b) Discuss the terms:
- i. Scalability
 - ii. Availability
 - iii. Security
 - iv. Manageability
 - v. Affordability
- (10 Marks)
- c)
- i. Name THREE layers in Hierarchical Network Design Model.
 - ii. State SIX Benefits of Using Hierarchical Design Model. (9 Marks)

Question FOUR

- a) What is network management? (5 Marks)
- b) What are the five areas of network management defined by the ISO? (5 Marks)
- c)
- i. Describe TWO types of Cabling Schemes.
 - ii. Briefly describe the following *Vertical Wiring, Horizontal Wiring and Work-Area Wiring*. (8 Marks)
- d) Name TWO Network-Diagramming Tools. (2 Marks)

Question FIVE

- a) List FOUR desirable properties of a Secured Communication. (4 Marks)
- b) List and describe briefly THREE basic security techniques. (6 Marks)
- c)
- i. Define Firewall.
 - ii. Name THREE categories in which Firewalls are classified
 - iii. List three Goals of a Firewall (8 Marks)