



TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN INFORMATION & COMMUNICATION TECHNOLOGY

EIT 4107: NETWORKING ESSENTIALS.

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016 SERIES

TIME: 2 HOURS

DATE: May 2016 Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of 5 questions. Attempt question ONE and any other TWO questions.

Do not write on the question paper.

Question ONE

- (a) Distinguish between baud rate and data rate (4 Marks)
- (b) Discuss any FOUR (4) disadvantages of installing computer networks (4 Marks)
- (c) Explain any SIX (6) reasons for using different topologies (6 Marks)
- (d) Discuss any SIX (6) different proprietary network environment that led to establishment of computer communication standards (6 Marks)
- (e) Discuss why IP is describe as unreliable service (4 Marks)
- (f) (i) Describe IPv4 address (2 Marks)
(ii) Show the boundary between the network and host addresses for any FOUR (4) classes of the IPv4 addresses with the aid of a sketch (4 Marks)

Question TWO

- (a) Compare and contrast OSI reference model to TCP/IP protocol suite (10 Marks)
- (b) Describe IP address (2 Marks)

- (c) Find the following addresses using the following IP address 217.105.143.162/27
 - (i) Network address
 - (ii) 1st IP address
 - (iii) Last IP address
 - (iv) Broadcast address (8 Marks)

Question THREE

- (a) Discuss the following network topologies with the aid of a sketch
 - (i) Bus
 - (ii) Ring
 - (iii) Star
 - (iv) Mesh
 - (v) Hybrid (20 Marks)

Question FOUR

- (a) Discuss the functions of the following networking devices
 - (i) Server
 - (ii) Router
 - (iii) Firewall
 - (iv) Switch
 - (v) Bridge (20 Marks)

Question FIVE

- (a) Discuss any FIVE (5) ideal requirement for light sources and light receivers in fiber optics (10 Marks)

- (b) (i) Describe transmission media (2 Marks)

- (c) Compare and contrast the following transmission media
 - (i) Twisted pair
 - (ii) Coaxial cable
 - (iii) Optical fiber cable
 - (iv) Terrestrial Microwave link (8 Marks)