



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 half duplex and full duplex with the aid of a sketch (4 Marks)
- (b) Discuss any THREE (3) major networking essential components (6 Marks)
- (c) discuss any FOUR (4) reliability issues provided by TCP (4 Marks)
- (d) Distinguish between fixed and mobile (4 Marks)
- (e) Explain any FOUR (4) factors that are considered in selecting a transmission media (4Marks)
- (f) Find the following address using the following IP address 209.15.158.187/27
 - (i) Network address
 - (ii) 1st IP address
 - (iii) Last IP address
 - (iv) Broadcast address (8 Marks)

Question TWO

- (a) Discuss the functions of any FIVE OSI reference model layers (10 Marks)
- (b) Describe the application TCP/IP protocol suite (2 Marks)
- (c) Discuss the functions of TCP/IP protocol suite (8 Marks)

Question THREE

- (a) Discuss the major transmission media impairment (10 Marks)
- (b) Discuss any FIVE connector losses in optical fibre cables with the aid of a sketch (10 Marks)

Question FOUR

In an interview for a computer networking job you are asked to discuss network topology;
REQUIRED

- (a) Define network topology (2 Marks)
- (b) Discuss with the aid of a sketch the following network topologies
 - (i) Bus
 - (ii) Ring
 - (iii) Star(18 Marks)

Question FIVE

- (a) Discuss any FIVE main network devices (10 Marks)
- (b) (i) define computer network (2 Marks)
 - (ii) Discuss any FOUR (4) classification of computer networks (8 Marks)