TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

BIT2108: COMPUTER NETWORKS.

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 asynchronous and synchronous transmission mode (4 Marks)
(b) Explain any FOUR Major classification of computer networks (8 Marks)
(c) Discuss common use of Internet (6 Marks)
(d) Discuss any SIX (6) typical properties of most protocols (6 Marks)
(e) Compare and contrast UTP to STP (4 Marks)
(f) Describe the advantages of peer to peer over client server networks (2 Marks)

Question TWO

(a) Encode the following bit stream 111000011011 using
    (i) Biphase M
    (ii) NRZ-I
    (iii) Pseodotenary
    (iv) Manchester
    (v) Differential Manchester (10 Marks)
(b) Discuss Delta Modulation with the aid of a sketch (10 Marks)

Question THREE

   (a) Compare and contrast OSI reference model to TCP/IP protocol suite   10 Marks

   (b) Define IP address   (2 Marks)

   (c) Find the following address using the following IP address 217.148.163.135/27

     (i) Network address

     (ii) 1st IP address

     (iii) Last IP address

     (iv) Broadcast address   (8 Marks)

Question FOUR

   (a) Discuss the main functions of network management   (10 Marks)

   (b) Describe the functions of any FIVE (5) network devices   (10 Marks)

Question FIVE

   (a) Compare and contrast bus topology to star topology   (10 Marks)

   (b) Compare and contrast Packet Switching to Circuit Switching   (10 Marks)