TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATIONS FOR DEGREE IN:
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
(BSIT 13S – J-FT)

BIT 2204: NETWORK SYSTEMS ADMINISTRATION

END OF SEMESTER EXAMINATION
SERIES: APRIL 2015
TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
- *Answer Booklet*

This paper consists of **FIVE** questions.
Attempt question **ONE (Compulsory)** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **TWO** printed pages

Question One (Compulsory)

a) Encode the following bit stream 1100101101 using:
- **(i)** Bipolar AMI
- **(ii)** Differential Manchester
- **(iii)** Manchester
- **(iv)** NRZ – I
- **(v)** NRZ – L **(10 marks)**

b) Describe the function of the following network devices:
- **(i)** Bridge
- **(ii)** Router
- **(iii)** Server **(12 marks)**

c) Describe key measures that are used to measure network performance **(8 marks)**

Question Two

a) Discuss the functions of the following OSI reference model layers:
(i) Transport
(ii) Network
(iii) Data link
(iv) Physical **(12 marks)**

b) Distinguish between frame relay and B-ISDN **(8 marks)**

Question Three

Modulation is one of the techniques that used in network systems administration to bring down the cost of computer networks and ensure sharing of the available bandwidth. Required:

Discuss any FIVE pulse modulation techniques that are common used **(20 marks)**

Question Four

a) Discuss with the aid of a sketch, how carrier sense multiple access with collision detection is used to improve the performance of computer networks **(10 marks)**

b) Distinguish between DQDB distributed queue Dual Bus and FDDI fibre Distributed Data Interface with the aid of a sketch **(10 marks)**

Question Five

a) Wireless communication is gaining popularity due to its flexibility and mobility. Discuss any FIVE wireless techniques that are popularly used in communication **(10 marks)**

b) Optical fibre communication is becoming available at homes and small business as the technology becomes cheaper, however there are still challenges associated with connector losses. Describe any FIVE connector losses with the aid of a sketch **(10 marks)**