



THE TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION
TECHNOLOGY

UNIVERSITY EXAMINATION FOR:
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
(BSIT M11/J-FT: BSIT J12: BSIT M12/S-EV)

BIT 2204: NETWORK SYSTEMS ADMINISTRATION

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: FEBRUARY 2013

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions

Answer question **ONE (COMPULSORY)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **THREE** printed pages

Question One (Compulsory)

- a) Describe any **THREE** proprietary computer network environment that led to the establishment of computer network standards. (6 marks)
- b) (i) Define Medium Access method.
(ii) Outline any **THREE** commonly used Medium Access Methods in computer Networks. (4 marks)
- c) Explain the factors that make frame relay better than X25. (4 marks)
- d) Describe B-ISDN with the aid of a sketch. (4 marks)

- e) Describe the key factors that are considered in selecting LINUX over Windows NT Platform in system Administration. (4 marks)
- f) Describe any FOUR Automatic Repeat Request ARQ types that are used to ensure proper communication between the sender and the receiver. (8 marks)

Question Two

- a) Describe the following protocols:
- (i) Samba
 - (ii) telnet
 - (iii) NFS
- (6 marks)
- b) Describe any TWO key functions of:
- (i) Data Link layer
 - (ii) Network Layer
 - (iii) Transport Layer
- (6 marks)
- c) Describe with the aid of a sketch the following MODEM modulation processes.
- (i) Amplitude shift keying ASK
 - (ii) Frequency shift keying FSK
 - (iii) Phase shift keying PSK
 - (iv) QAM
- (8 marks)

Question Three

- a) (i) Define the term Network device
- (ii) Describe the function of the following networking device in Network System Administration.
- Server
 - Router
 - Switch
 - Bridge
 - Firewall
- (16 marks)
- b) Distinguish between FDDI and DQBD (4 marks)

Question Four

A company wishes to use contention also known as Random Medium Access Method in thier LAN. They approach you for advice on the viability of implementing the access method.

Required:

- (i) State **FOUR** contention techniques
- (ii) Describe in details the best **TWO** techniques in 4a(i) above.
- (iii) Describe the method that is best suited for wireless network with reasons
- (iv) Explain the method that is best suited for wired networks, state the reasons. (20 marks)

Question Five

- a) State the factors that are considered in installing computer networks. **(2 marks)**
- b) Describe **FOUR** key network management functions. **(8 marks)**
- c) Describe the factors you would consider in selecting coaxial cable over twisted pair cables. **(2 marks)**
- d) Describe a fibre optic communication link with the aid of a sketch. **(8 marks)**