



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORAMTION TECHNOLOGY

UNIVERSITY EXAMINATION FOR:
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY
(BTIT 13S – Y4 S1)

EIT 4408: STRUCTURED CABLING

END OF SEMESTER EXAMINATION
SERIES: AUGUST 2014
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) Explain the following terms:

- (i) Structured cabling
- (ii) RJ4S
- (iii) Work Area
- (iv) Entrance facility
- (v) Raceway

(10 marks)

b) What is a cable?

(2 marks)

c) Describe the following cabling standards:

- (i) RG – 6/U
- (ii) 10 Base F
- (iii) 10 Base T

(6 marks)

d) Using a labeled diagram, describe the structured cabling hierarchy.

(8 marks)

- e) Discuss the differences between baseband and broadband transmission. (4 marks)

Question Two

- a) Differentiate between thicknet and thinnet types of coaxial cable. (4 marks)
- b) Using a labeled diagram, explain the construction of the following cables:
(i) Cross-over cable
(ii) Twinax coaxial cable (6 marks)
- c) Outline the differences between cat 3 and cat 5 twisted pair cables. (4 marks)
- d) Discuss the following cable impairments and explain how they are addressed:
(i) Cross-talk
(ii) Attenuation (6 marks)

Question Three

- a) Outline the main SIX elements of a structured cable infrastructure. (6 marks)
- b) Explain the difference between:
(i) RJ-4S and RJ-11 connectors
(ii) Terminator and Jamper
(iii) Logical and physical topologies (6 marks)
- c) Briefly discuss the classification of the 10Mb/s Ethernet LAN cabling technologies. (8 marks)

Question Four

- a) Outline the merits and demerits of a structured cabling. (6 marks)
- b) A voice frequently standard multicore cable of 25 pairs is terminated between a cross-connect and a telecommunications switching equipment:
(i) Explain the importance of a cross-connect (2 marks)
(ii) Using colour coding scheme, outline the wiring plan of the telecommunication equipment to the cross-connect. (6 marks)
- c) Outline the criteria used during the selection of internetworking devices. (6 marks)

Question Five

- a) Differentiate between a hub and a switch. (4 marks)
- b) Outline the importance of the following considerations during the selection of a cable wiring:
(i) Cable loss
(ii) Cable construction
(iii) Low maintenance (6 marks)
- c) State any THREE types of test gears used for testing structured cable systems. (3 marks)
- d) Using a suitable diagram, illustrate how a three-pair cable is terminated on an RJ-11 connector. Explain. (3 marks)
- e) Explain the functions of the following interconnecting devices:
(i) Keystone jack

- (ii) SC-connector
- (iii) ST-connector
- (iv) MT-RJ connector

(4 marks)