



TECHNICAL UNIVERISTY OF MOMBASA

# Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATIONS FOR DEGREE IN:  
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (BTIT 13M 12J)

**EIT 4408: STRUCTURED CABLING**

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

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**Question One (Compulsory)**

a) Explain the following terms:

(i) Tinning

(ii) Telecommunication closet

(iii) Bonding

(iv) Attenuation

**(8 marks)**

b) Outline any **TWO** functions for each of the following structured cabling elements:

(i) Entrance facility

(ii) Equipment room

**(6 marks)**

c) Differentiate between cable structure and cable construction. Give an example in each case

**(6 marks)**

d) Explain the term Grounding as applied to cable systems. What is the significance of grounding in structured cable systems?

**(4 marks)**

- e) Outline the advantages of optic fibre over copper transmission media **(6 marks)**

### **Question Two**

- a) With the aid of a labeled diagram, describe the elements of a structured cable system **(10 marks)**
- b) Using a labeled diagram, explain the difference between Twinax and dual coaxial cables **(4 marks)**
- c) Outline the functions of a patch panel **(2 marks)**
- d) Explain the following types of interconnection facilities:  
(i) DDF  
(ii) ODF **(4 marks)**

### **Question Three**

- a) Discuss any TWO problems associated with commercial power sources and explain how they are addressed in relation to structured cabling system. **(8 marks)**
- b) Explain the effects of the commercial power problems you have discussed in question 3(a) above on structured cable infrastructure **(6 marks)**
- c) Describe the three classifications of copper transmission media and indicate where they are used in communication networks **(6 marks)**

### **Question Four**

- a) With the aid of labeled diagrams, explain the differences between single core and multi-core optic fibre cables. **(8 marks)**
- b) Outline the importance of cable standards. **(2 marks)**
- c) State any FOUR standards bodies taking active role in the area of cable system infrastructure
- d) Describe the following cable standards:  
(i) IEEE 802.3u  
(ii) IEEE 802.3z **(6 marks)**

### **Question Five**

- a) Differentiate between active and passive hubs **(4 marks)**
- b) Describe the following cable problems and explain how they are resolved:  
(i) Fibre optic cable cut  
(ii) Copper strand oxidation **(6 marks)**
- c) Distinguish between a transition point and a telecommunication outlet as used in cable systems **(4 marks)**
- d) State any TWO types of connectors used with:  
(i) Optic fibre cables  
(ii) Coaxial cables **(4 marks)**
- e) Describe the functions of a media converter **(2 marks)**