



UNIVERSITY EXAMINATIONS: 2025/2026
EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY
BBITBSIT205
BIT
DATA COMMUNICATIONS
END TERM EXAMINATION

EXAM DATE: **THURSDAY** **- ONLINE**

TIME: **5:30PM – 8:30PM**

DATE: DECEMBER, 2025

TIME: 2 HOURS

INSTRUCTIONS: Question One is Compulsory, Choose Three Other Questions

SECTION A (COMPULSORY)

QUESTION ONE (15 Marks) Compulsory

- a) Using renowned characteristics compare & contrast between Analog and Digital signal in data communications. **[2 marks]**
- b) Discuss the data protection directive and its implementations **[2 marks]**
- c) Debate with examples the data protection principles articulated in data protection Act. **[6 marks]**

SECTION B

(ANSWER ANY THREE (3) QUESTIONS IN THIS SECTION)

QUESTION TWO (15 marks)

- a) Analyse the appropriate remedies for the following Data & network bottlenecks.
 - i. Crosstalk. **[3 marks]**
 - ii. Signal Attenuations. **[3 marks]**
 - iii.
- b) Discuss the following network characteristics used in assessing most network operations.
 - i. Performance **[2 marks]**
 - ii. Reliability. **[2 marks]**

QUESTION THREE (15 marks)

Discuss when and how you would use the following commands in troubleshooting transmissions.

- i. ifconfig. **[2 marks]**
- ii. ping (ip/domain/computer name) -t **[2 marks]**
- iii. nslookup **[2 marks]**
- iv. Netstat **[2 marks]**
- v. DxDiag **[2 marks]**

QUESTION FOUR (15 marks)

- a) For an effective Data management and operations, Administrators have to consider various elements of effective data security. Illustrate how you shall use the following to reinforce and manage an institution.
 - i. Policy Management. **[2 marks]**
 - ii. Data Privacy. **[2 marks]**

- b) Analyse TWO transmission impairment experienced in most telecommunications frameworks operations and how each could be avoided. **[4 marks]**

QUESTION FIVE (15 marks)

Compare and Contrast between Firewalls and Intrusion detection system citing the functions of each. **[10 marks]**

QUESTION SIX (15 marks)

- a) In data communications set-ups we always encounter different equipment's in structures designed to manage data transmissions and management. Analyze the following attributes as relates to communications equipment's designs.
- i. MDF **[2 marks]**
 - ii. IDF **[2 marks]**
 - iii. HCC **[2 marks]**
- b) Illustrate the cable arrangements on how you would terminate Straight through UTP or STP copper cable using *ANSI/TIA/EIA-568-B*, standards. **[4 marks]**.

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