



TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION

TECHNOLOGY

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

EIT 2201: DATA COMMUNICATION

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2019

TIME: 2 HOURS

DATE: Pick Date Aug 2019

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- (a) Define packet switching (1 Marks)
- (b) Distinguish between X.25 and Frame Relay packet switched protocol suites (6 Marks)
- (c) Explain the THREE Classification of Modulation as applied in Data Communication (6 Marks)
- (d) (i) Define Multiplexing (1 Mark)
- (ii) Compare and contrast Time Division Multiplexing to Code Division Multiplexing. (6 Marks)

Question TWO

- (a) Explain any THREE fundamental characteristics that determine the effectiveness of a data communication system. (3 Marks)
- (b) Explain Switched Communication Networks (3 Marks)
- (c) Explain the following multiplexing schemes
 - (i) Message Switching (4 Marks)
 - (ii) Packet Switching (5 Marks)
 - (iii) Circuit Switching (5 Marks)

Question THREE

- (a) Compare and contrast parallel transmission to serial transmission (4 Marks)
- (b) Compare and contrast OSI Reference Model to TCP/IP protocol suite (8 Marks)
- (c) Find the subnet IP address and Last IP address given 172.16.0.5/27 (4 Marks)
- (d) Distinguish between Private and Public IP address with examples (4 Marks)

Question FOUR

- (a) Compare and contrast Twisted Pair cable to Coaxial cable (4 Marks)
- (b) Explain the ideal requirement for Fiber Optic Transmitters and Receivers (6 Marks)
- (c) Explain the Fiber Optic Communication Link with the aid of a sketch (6 Marks)
- (d) Explain any FOUR wireless propagation methods that are used radiate signals from antenna (4 Marks)

Question FIVE

- (a) Distinguish between Forward Error Control and Backward Error Control (4 Marks)
- (b) Distinguish between CSMA/CD and CSMA/CA (6 Marks)
- (c) Explain any THREE forms of Channelization (6 Marks)
- (d) Compare Reservation to Token passing controlled access methods (4 Marks)