



Professional Qualification in COMPUTER ENGINEERING Level 4 Diploma

UNIT 4 – NETWORKING TECHNOLOGY

Question 1

- (a) State the meaning of the term 'packet collision'. (2 marks)
- (b) Describe how collision detection has been incorporated into Ethernet. (6 marks)
- (c) Explain the difference between a protocol analyser and a packet sniffer. (12 marks)

Question 2

- (a) State the purpose of the ICMP protocol. (2 marks)
- (b) Describe the format of ICMP protocol packets. (4 marks)
- (c) Compare ICMPv4 and ICMPv6. (14 marks)

Question 3

- (a) Describe what multiplexing is. (4 marks)
- (b) Explain which protocol layer is responsible for multiplexing. (4 marks)
- (c) Compare how TCP and UDP differ in terms of multiplexing. (12 marks)

Question 4

- (a) State the purpose of the session layer. (2 marks)
- (b) Explain why the session layer is absent from the TCP/IP model. (6 marks)
- (c) Explain how sessions are typically established and terminated. (12 marks)

Question 5

Illustrate the role of the presentation layer. Use diagrams and/or examples to support your answer (20 marks)