



**Professional
Qualification in**

COMPUTER ENGINEERING

Level 4 Diploma

UNIT 4 – NETWORKING TECHNOLOGY

Question 1

- (a) **Describe** the purpose of the physical and data link layers. (12 marks)
- (b) **Describe TWO** methods of collision detection. (8 marks)

Question 2

- (a) **State** what is meant by the term 'TCP'. (4 marks)
- (b) **Describe** the purpose of the transport layer. (8 marks)
- (c) **Compare TWO** transport-layer protocols. (8 marks)

Question 3

- (a) **State** what is meant by the term 'streaming'. (4 marks)
- (b) **Describe** the purpose of the session layer. (8 marks)
- (c) **Explain** why media streaming is handled in the session layer. (8 marks)

Question 4

- (a) **State** what is meant by the term 'Promiscuous mode' when describing network cards. (4 marks)
- (b) **Explain** how a packet sniffer is used to examine the integrity of network packets. (8 marks)
- (c) **Explain** how software tools can be used to confirm that packets are correctly routed. (8 marks)

Question 5

- (a) **Describe** how to configure a firewall according to a network design. (10 marks)
- (b) **Compare** the advantages and disadvantages of using layer 3 firewalls versus layer 7 proxies. (10 marks)