



Professional Qualification in COMPUTER ENGINEERING Level 4 Diploma

UNIT 4 – NETWORKING TECHNOLOGY

Question 1

- (a) **State** the purpose of the physical layer. (2 marks)
- (b) **Describe how** the physical layer has been incorporated into Ethernet. (6 marks)
- (c) **Explain** the difference between the physical layer and the data link layer. (12 marks)

Question 2

- (a) **State** the purpose of IP addresses. (2 marks)
- (b) **Describe** the format of an IPv4 address. (4 marks)
- (c) **Compare** the network layer in the OSI and TCP/IP models. (14 marks)

Question 3

- (a) **Describe** what TCP is. (4 marks)
- (b) **Describe** what UDP is. (4 marks)
- (c) **Compare THREE** features of TCP and UDP. (12 marks)

Question 4

- (a) **State** the purpose of a packet sniffer. (2 marks)
- (b) **Describe how** to setup a common general-purpose sniffer of your choice (e.g. Wireshark). (6 marks)
- (c) Referring to your response to Question 4b, **illustrate how** to identify a computer using too much bandwidth. Use diagrams and/or examples to support your answer. (12 marks)

Question 5

Illustrate each layer of the OSI 7-layer network model. Use diagrams and/or examples to support your answer. (20 marks)