



# Professional Qualification in COMPUTER ENGINEERING Level 4 Diploma

## UNIT 4 – NETWORKING TECHNOLOGY

### Question 1

- (a) **Explain** the purpose of the data link layer. (2 marks)
- (b) **Describe** how the data link layer has been incorporated into Ethernet. (6 marks)
- (c) **Explain** the difference between the physical layer and the data link layer. (12 marks) 1

### Question 2

**Illustrate** how a packet containing ASCII-coded data could be transformed into UTF16-coded data. Use diagrams and/or examples to support your answer. (20 marks)

### Question 3

- (a) **Describe** what multiplexing is. (6 marks)
- (b) **Describe** what link reliability is. (6 marks)
- (c) **Compare THREE** features of multiplexed connections. (8 marks)

### Question 4

- (a) **Explain ONE** purpose of the transport layer of the OSI model. (4 marks)
- (b) **Compare TWO** advantages of the User Datagram Protocol (UDP). (16 marks)

### Question 5

- (a) **Explain** the purpose of IPv6. (2 marks)
- (b) **Describe** the format of IPv6. (4 marks)
- (c) **Compare** static and dynamic IP addressing. (14 marks)