

SECTION A: MULTIPLE CHOICE QUESTIONS (40 marks)

Answer **all** questions. Choose the **best** answer. Each question carries 2 marks. Write your answers in the brackets provided.

(SAMPLE QUESTIONS)

1. Mouse is a/an _____.
(a) input device
(b) network device
(c) output device
(d) storage device ()
2. How many bytes are there in 111100110001110100111011 (in binary)?
(a) 1
(b) 2
(c) 3
(d) 4 ()
3. The decimal number -16 stored in 8-bit 2's complement is:
(a) 00010000
(b) 11110000
(c) 11111000
(d) 11111100 ()
4. A/an _____ is a networked collection of LANs tied together by devices such as routers.
(a) LAN
(b) MAN
(c) WAN
(d) internetwork ()
5. Which of the following is NOT a task of a NIC and its driver?
(a) Converts frame into bit signals suitable for the medium and transmits them.
(b) Provides a connection from computer to medium.
(c) Receives bit signals and assembles them into frames.
(d) Receives segments from transport protocol. ()

SECTION B: STRUCTURED QUESTIONS (60 marks)

Answer **all** questions in the spaces provided.

(SAMPLE QUESTIONS)

1. List the three types of computer bus and briefly describe them.

2. (a) Perform the following addition and subtraction using 2's-complement.
 - (i)
$$\begin{array}{r} 0001 \\ + 0101 \\ \hline \end{array}$$
 - (ii)
$$\begin{array}{r} 0010 \\ - 0011 \\ \hline \end{array}$$

- (b) Convert the following decimal to binary:
 - (i) 123
 - (ii) 34
 - (iii) 55

- (c) Convert the following hexadecimal to decimal:
 - (i) 31
 - (ii) 89
 - (iii) 7A

3.
 - (a) Briefly describe the following:
 - (i) Intranet
 - (ii) Extranet
 - (b) Name the address found in the packet header.

4.
 - (a) What is network bandwidth?
 - (b) When does a Network Interface Card (NIC) permit inbound communications?