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Daffodil International University

Computer Science and Engineering Department

CSE 112 Computer Fundamental Section-72_B

Class Test: 01 Full Marks 15 Time- 30 Min Date: 07/06/2026

Name:_____Student ID: _____

Question 1: Number System Conversion (5 Marks)

A sensor node in an IoT-based smart farming system stores data in different number systems.

a) Convert the decimal number 157_{10} to binary. (2 Marks)

b) Convert the hexadecimal number $A7_{16}$ to decimal. (1.5 Marks)

c) Convert the binary number 101101_2 to octal. (1.5 Marks)

Question 2: Binary Arithmetic (5 Marks)

A digital communication device performs arithmetic operations using binary numbers.

a) Multiply $1011_2 \times 110_2$ using binary multiplication. (2.5 Marks)

b) Divide $111100_2 \div 101_2$ using binary division and determine the quotient and remainder. (2.5 Marks)

Question 3: Complements in Number Systems (5 Marks)

A computer system uses complements to represent negative numbers and perform subtraction efficiently.

a) Find the 2's Complement of the binary number 01011010_2. (2.5 Marks)

c) Find the 9's Complement of the decimal number 5837_{10}. (2.5 Marks)