BRAC UNIVERSITY

Department of Computer Science and Engineering
CSE 260: Digital Logic Design

Examination: Quiz I　　　　　　　　　　　　　　　　　**Duration: 20min**
Semester : Fall 2025　　　　　　　　　　　　　　　　　**Full Marks: 15**

Name:	ID:	Section:

1	Which of these numbers are not valid and why: ● $(BCA973EFEA)_{14}$ ● $(43586542353)_9$ ● $(56215452353)_6$	**2**
2	Let: $\quad X = (146)_8,\ Y = (43)_5,\ Z = (25)_8,\ W = (12A)_{11}$ ● Evaluate the expression in octal: $E = (X * Y) + (W - Z)$ Must perform all the arithmetic operations in octal **[6]** ● Convert E into Excess-4 (Directly convert the E expression to Excess-4. No need to perform base conversion) **[2]**	**8**
3	Add −50 and −63 using 7-bit 2's complement. State if there is an overflow or not. **[5]**	**5**

Rubric

Properly identify the two invalid numbers	1 + 1
Correct base conversion to octal Addition Multiplication Subtraction Add 4 to every digit correctly for Ex-4 Proper conversion	1+1 1 2 1 1 1
Correct conversion to 2s comp Addition Overflow detection	1.5 + 1.5 1 1