**North South University**

Department of Computer Science and Engineering

Quiz-1, Section – 5, Sping’17

Course No: **CSE 231** Course Title: **Digital Logic Design**

Time: 40 min Full Marks: 40

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| 1. | Write down 20 consecutive numbers starting from 8 in a number system with base =12. If necessary, you can assume any English letters to represent a basic unique number | 5 |
| 2. | What is the largest binary number that can be expressed with 16 bits? What are the equivalent decimal and hexadecimal numbers? | 5 |
| 3. | Consider 1st two digits of your ID as a Decimal Number A and last two digits as Decimal Number B. Convert A and B into BCD and add them using BCD addition. | 5 |
| 4. | Perform subtraction on the following numbers using 2’s complement  1001-110101 | 7 |
| 5. | Simplify following Boolean expression to minimum no. of literals:  x’ + xy + xz’ + xy’z’ | 5 |
| 6. | Find the complement of the following expression:  AB(CD+CD’) + A’B’(C’+D)(C+D’) | 5 |
| 7. | Express following function in a) sum of minterm b) product of maxterm  bd’+ acd’+ ab’c + a’c’ | 4+4 |
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