

# North South University

Department of Computer Science and Engineering

Quiz-2, Section – 3, Summer'21

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

Exam Time: 20 min (exam+upload)

Full Marks: 10

- 1 Use Karnaugh maps to simplify the following expression using 4 variable K-Map: 5

$$F(A, B, C, D) = A'BC'D' + ABCD' + ABCD + ABC'D' + A'B'CD$$

$$d(A, B, C, D) = A'B'C'D + ABCD'$$

- 2 Express following function in product of maxterm by applying theorems (truth tables are not allowed, finding sum of minterms are not allowed) 5

$$F(A, B, C) = AB + BC + AC$$

- 3 a. Reduce the following expression into minimum no. of literals (use only postulate and theorems) 3+

- b. Find the complement of the reduced expression 2

$$F = ABC + AC + BC + ABD'$$