**National University of Computer and Emerging Sciences, Lahore Campus**

**Assignment 3 Database System**

**TOPIC: FD’s**

**Deadline: 29 March, 2024 (hand written scanned form)**

**Q1.**Consider the relation R (A, B, C, D, E, I) and a set of FDs F = { A → C, AB → C, C → DI, CD → I, EC → AB, EI → C }. Compute the minimal cover for *F* (i.e. *Fc*). Also find all possible Keys (minimal of super keys i.e. candidate keys) of R.

**Q2.**Find out whether the following set of functional dependencies for the relation R (A, B, C, D, E, G) are equivalent or not. Show all the steps. F1 = {A→C, AB→C, C→DG, CD→G, EC→AB, EG→C} and F2 = {A→C, C→D, C→G, EC→A, EC→B, EG→C}

**Q3.**Consider the relation R (A, B, C, D, E, G) and a set of FDs F = {D→E, ABC→BDE, B→G, A→C, ABC→G}. Compute the minimal cover for *F* (i.e. *Fc*). Also find all possible Keys (i.e. minimal of super keys) of R.

**Q4.**Consider the relation R (A, B, C, D, E) and a set of FDs F = {C→AB, A→E, D→E, BD→C, CD→B}. Find all possible Keys of R.

**Q5.**Consider the relation R (A, B, C, D) and a set of FDs F = {AB→C, CD→B, AD→B, AC→D}. Find all possible Keys of R.

**Q6.**Consider the relation R (A, B, C, D, E) and a set of FDs F = {A→C, C→BD, D→A}. Find all possible Keys of R.

**Q7.**Consider the relation R (A, B, C, D, E, G) and a set of FDs F = {ABC→CDEG, C→E, A→B, D→G}. Compute the minimal cover for *F* (i.e. *Fc*). Also find all possible Keys (i.e. minimal of super keys) of R.