

**CS2102 Database Systems – Quiz 2**  
**2013/2014 Semester I**

**This is a series of MCQ. Please write your answers in the OCR form provided.**

Questions 1 to 5 are based on the following relation schema R and the set of functional dependencies F.

$R = (A, B, C, D, E, G)$

$F = \{ \{A, C\} \rightarrow \{D, E\}, \{A, D, G\} \rightarrow \{B, C\} \}$

1. Which of the following is a functional dependency in  $F^+$ ?

- a.  $\{A, C\} \rightarrow \{D, E\}$
- b.  $\{A, D\} \rightarrow \{D\}$
- c.  $\{A, C\} \rightarrow \{C, E\}$
- d. All of the above
- e. None of the above

2. Which of the following is a trivial functional dependency in  $F^+$ ?

- a.  $\{A, C\} \rightarrow \{D, E\}$
- b.  $\{A, D\} \rightarrow \{D\}$
- c.  $\{A, C\} \rightarrow \{C, E\}$
- d. All of the above
- e. None of the above

3. Which of the following is a functional dependency in a minimal cover of F?

- a.  $\{A, C\} \rightarrow \{D, E\}$
- b.  $\{A, D\} \rightarrow \{D\}$
- c.  $\{A, C\} \rightarrow \{C, E\}$
- d. All of the above
- e. None of the above

4. Which of the following is a super key of R with F?

- a.  $\{A, D, E, G\}$
- b.  $\{A, B, C, G\}$
- c.  $\{A, D, C, G\}$
- d. All of the above
- e. None of the above

5. Which of the following is a candidate key of R with F?

- a.  $\{A, D, G\}$
- b.  $\{A, B, C\}$
- c.  $\{A, D, C, G\}$
- d. All of the above
- e. None of the above