

Name: \_\_\_\_\_

ID#: \_\_\_\_\_

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**Question 1:**

**(4 Points)**

a) Briefly describe the problem of spurious tuples and how we may prevent it.

**(2 points)**

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b) Briefly explain the concept of “Functional dependency” and where it is used.

**(2 points)**

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**Question 2:**

**(6 Points)**

Consider the following Students relation with the functional Dependencies **F**:

STUDENT (ID, Name, Dept\_Name, Dept\_Phone, Advisor\_Name, Advisor\_Office, Advisor\_Phone)

**F** = { Advisor\_Name → { Advisor\_Office, Advisor\_Phone }; Dept\_Name → Dept\_Phone }

a) In what normal form is this relation and why?

**(2 points)**

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b) Further normalize the relation to BCNF, if needed.

**(4 points)**