AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
Course No: CSE4125
Course Title: Distributed Database Systems
Fall 2019 | Quiz – 1 | Marks 20 | Time: 40 Minutes | Set - B

1. Answer the following questions.

   a. Define distributed database management system. Write down the names of DDBMS 2 components.

   b. Compare the features of distributed and traditional database. 4

2. If R and S are the input relations, and T is the output relation, for which relational algebraic 4 operations the following statements are true? Explain with example.
      i. grade(R) - grade(T) = 0
      ii. cardinality(R) * Cardinality(S) > cardinality (T)

3. Given three relations R, S, T. We want to perform the following query Q.
    Where, Q = PJ_a (R UN S)

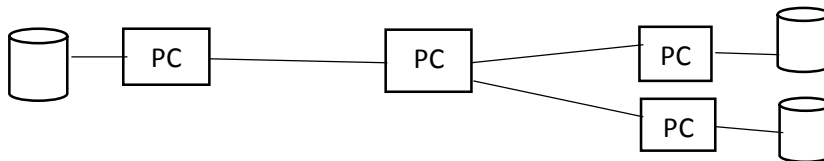   Card (R) = 3000   Card (S) = 1000   Card (T) = 4000

	a	b	c	d
Size	6	7	2	10
Val	3000	1000	30	500

	a	c	b	d
Size	6	7	2	10
Val	1000	20	500	100

	a	m	n
Size	6	5	4
Val	4000	10	5

    Assume that , the result of (R UN S) has no duplicate values in attribute 'a'

    a. Is the database profile correct? Mention and rewrite the errors if any.   1

    b. Estimate the cardinality of the result of query Q. Indicate necessary formulas applied to estimate.   4

    c. What is the output of $size(T\ SJ_{a=a}\ R)$?   1

4..   4

    Do you think this is an appropriate distributed database system? Explain your answer.