Jaypee Institute Of Information Technology
Even Semester 2017
Theoretical Foundation of Computer Science
Tutorial – 1

Topic: Set Theory

Q1. Everything in the world can be represented using sets. So, represent the following as sets:
a) Items in your bag,
b) LRC of JIIT
c) Even numbers which are divisible by 3.
d) English language.

Q2. Represent the following function as set:
$y = x^2$ for $x>0$

Q3. Assume a relation *emp* in a database. On executing the query *" select empid, empname from emp*
where salary is greater than 10000", the output is as follows:
Empid Empname
E01 ABC
E09 XYZ
E22 PQR
Represent this output as set.

Q4: Write pseudo-code/ C code for the following:
a) Given two sets A and B. Merge them in a third set, C such that it contains all distinct elements.
b) Find the common elements for set A and B and store the same in set D.
c) Let set X={cat, dog} and Y={walks, runs, sleeps}. Obtain a set, Z which should contain XY.
For example Z = { cat walks, cat runs, cat sleeps, dog walks, dog runs, dog sleeps}.