**Foundation of Computer Science**

**ETCS-203**

**Assignment 1**

**Q1.** Define sets A = {1, {4}, {2}, 3, 4, 5}

B = {{{1, 4, 5, 3, 1}}}

C = {1, {3}, 2, 1},

D = {1, 1, 3},

E = {1, 4, {5}, {3}},

F = {1, 8, {1, 2, 3, 4}}

a1 = 1, a2 = {2}, a3 = {2, 1}, a4 = {2, 1, 3, 4}, a5 = {3, 1, 5}.

For each of a1, . . . , a5, determine if it is a member of the sets A, . . . , F respectively. Present your answer in the following table:

Q2. Define U = {3, 1, 3, 2}, V = {1, 3, {1, 3}, {1, 2, 3}}. Is U ∈ V ? Is U ⊆ V ?

Q3. Let X be the set {1, 2, 3, 4, 5, 6, {1}}. Find Y such that Y = X ∪ (X ∩ P(X)).

Q4. List the elements of the following sets.

1. P(∅)

2. P({∅})

3. P(P(∅))

4. {∅} × P(∅)

5. ∅ × P(∅)

6. P(∅) × P(∅)

Q5. A tennis camp has 39 players. There are 25 left-handed players and 22 players who

have a two-handed back stroke. How many left-handed players have a two-handed

back stroke if every player is represented in these two counts?