## SECTION 8.3 : PROBABILITY WITH COMBINATIONS

**We can use probability with combinations instead of a tree when we are making selections without replacemenent.**

**EXAMPLE 12:** A college club has 11 members. 7 are part time students and 4 are full time students. A committee of 5 people is to be formed from the members of this club.

a. Find the probability that a committees of 5 people consists of 3 part time and 2 full time students.

b. Find the probability that a committee of 5 people contains 2 or 3 part time students and the rest full time students.

**EXAMPLE 13:** A librarian has 5 adult fiction books, 6 adult non-fiction books, and 8 children's books. She selects a group of 10 books to take to a book club meeting.

a. Find the probability that the group of 10 books consists of 2 adult fiction books, 3 adult non-fiction books and 5 children's books.

b. Find the probability that the group of 10 books selected contains 5 or 6 children's books.