$$\frac{(n+1)!}{(n-1)!} = \frac{(n+1).n.\cancel{(n-1)!}}{\cancel{(n-1)!}} = (n+1).n = n^2 + n$$

**Question No: 30 ( Marks: 1 ) - Please choose one**
**The number of *k*-combinations that can be chosen from a set of *n* elements can be written as**

- **$^{n}C_{k}$ (Page 225)**
- $^{k}C_{n}$
- $^{n}P_{k}$
- $^{k}P_{k}$

**Question No: 31 ( Marks: 1 ) - Please choose one**
**If the order does not matter and repetition is allowed then total number of ways for selecting k sample from n. is**

- $n^k$
- **C(n+k-1,k) (Page 229)**
- P(n,k)
- C(n,k)

**Question No: 32 ( Marks: 1 ) - Please choose one**
**If the order matters and repetition is not allowed then total number of ways for selecting k sample from n. is**

- $n^k$
- C(n+k-1,k)
- P(n,k)
- **C(n,k) (Page 225)**

**Question No: 33 ( Marks: 1 ) - Please choose one**
**To find the number of unordered partitions, we have to count the ordered partitions and then divide it by suitable number to erase the order in partitions**

- **True (Page 233)**
- False
- None of these

**Question No: 34 ( Marks: 1 ) - Please choose one**
**A tree diagram is a useful tool to list all the logical possibilities of a sequence of events where each event can occur in a finite number of ways.**

- **True (Page 237)**
- False

**Question No: 36 ( Marks: 1 ) - Please choose one**
What is the output state of an OR gate if the inputs are 0 and 1?