**9. Find the number of permutations of n distinct things taken r together, in which 3 particular things must occur together.**

**Solution:**

Permutations of n distinct things taken r together $= {}^{n}C_{r}$

And when 3 particular things must occur together, we get,

$= {}^{n-3}C_{r-3}$

$= {}^{n-3}C_{r-3} \times (r-2)! \times 3!$