**STU22004 – Sample Questions 1**

1. In how many ways can 10 people sit in a row, if two of them insist not to be seated beside each other?
2. In how many ways can you put different gifts in different boxes?
3. In how many ways can 4 boys and 4 girls sit around a table, no 2 boys or girls adjacent?
4. How many sequences from the letters of word MISSISSIPPI, no 2 “i”s adjacent?
5. In how many ways can you put 70 similar chips in 5 numbered boxes, min chips in box number ?
6. Redo question 3, if boys and girls are siblings (2 by2), and they do not want to sit adjacent?
7. You put 20 similar chips in 5 numbered boxes. In how many ways a particular box would be empty?
8. In how many ways can you order 15 different books, if 5 particular ones should be adjacent?
9. How many 7-digit numbers with no same adjacent digits?
10. In a company, 7 technicians know how to work with a particular machine. 3 machines are used in each work shift. In how many different shifts does a particular technician work?
11. Find
13. In how many ways can you write 30 as the sum of 5 non-negative 3 multipliers?
14. Find the number of integer answers for the equation if , .
15. In , what is the coefficient of ?