TN Board Class 11 Maths
Important Questions

1. How many numbers are there between 100 the repetition of digits is not allowed?
2. If the letters of the word APPLE are permuted in all possible ways and the strings then formed are arranged in the dictionary order, show that the rank of the word APPLE is 12.
3. A van has 8 seats. It has two seats in the front with two rows of three seats behind. The van belongs to a family, consisting of seven members, F,M, S_1, S_2, S_3, D_1,D_2. How many ways can the family sit in the van if there are no restrictions?
   (i) Either F or M drives the van?
   (ii) D_1,D_2 sits next to a window and F is driving?
4. How many numbers are there between 100 and 500 with the digits 0, 1, 2, 3, 4, 5 if the repetition of digits is not allowed?
5. How many different selections of 5 books can be made from 12 different books if
   Two particular books are always selected?
   Two particular books are never selected?
6. Suppose that a boat travels 10 km from the port towards east and then turns 60 its left. If the boat travels further 8 km, how far from the port is the boat?
7. Write the general form of a 3 × 3 skew-symmetric matrix and prove that its determinant is 0
8. Find the area of the triangle whose vertices are (0, 0), (1, 2) and (4, 3).
9. Show that the points (2, - 1, 3), (4, 3, 1) and (3, 1, 2) are collinear.
10. Prove that $f(x) = 2x^2 + 3x - 5$ is continuous at all points in R.
11. Find the derivative of $\sin x^2$ with respect to x^2
12. What is the chance that (i) non-leap year (ii) leap year should have fifty three Sundays?
13. An integer is chosen at random from the first 100 positive integers. What is the probability that the integer chosen is a prime or multiple of 8?