

Name: _____	Subject: Mathematics	Class: 11 th	Time: 80 minutes	Total Marks: 40
Chapter No.07	MJDexpert.com			Obtained marks

Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts of Question 3. Cutting and removal of any content is strictly prohibited.

Q.No.1 Choose the correct Answer.

(10 × 1 = 10)

1. $n_{p_n} =$			
a) $n!$	b) $(n + 1)!$	c) 1	d) $(n - 1)!$
2. ${}_6P_4$ is equal to:			
a) 160	b) 260	c) 360	d) 340
3. If n is zero then $n!$ is equal to:			
a) 1	b) Zero	c) Not defined	d) n
4. $\frac{8!}{7!} =$			
a) 7!	b) 7	c) 8	d) 8!
5. $6! + 0!$ is equal to:			
a) 719	b) 720	c) 721	d) 722
6. Factorial notation was introduced by:			
a) Christian Kramp	b) Christian George	c) Christian Crump	d) Newton
7. For an event A the range of P(A) is:			
a) $0 < P(A) \leq 1$	b) $0 \leq P(A) < 1$	c) $0 \leq P(A) \leq 1$	d) $0 < P(A) < 1$
8. The value of n when $n_{p_n} = 11 \times 10 \times 9$ is:			
a) 0	b) 1	c) 2	d) 3
9. A die is rolled twice then $n(S)$ equals to:			
a) 36	b) 6	c) 1	d) 9
10. If n is negative integer then $n!$ is:			
a) 1	b) Not defined	c) Zero	d) n

Q.No.2 Answer the following short questions:

(10 × 2 = 20)

i. In how many ways can 4 keys be arranged on a circular key ring.
ii. Write $(n + 2)(n + 1)n$ in factorial form.
iii. Define circular permutation.
iv. Find the value of "n" if $n_{p_4} : n - 1_{p_3} = 9 : 1$
v. Evaluate 20_{P_3} .
vi. How many different 4-digit number can be formed by the digit 1,2,3,4,5 when no digit is repeated.
vii. In how many ways the word "PAKISTAN" be arranged.
viii. Prove that $n_{C_r} = n_{C_{n-r}}$.
ix. A die is rolled what is the probability that the dots on the top are greater than 4?
x. A die is rolled. Find the probability that top shows 3 or 4.

Q.No.3: Write the detailed answer of the following questions. (2 × 5 = 10)

a) How many signals can be given by any number of flags when any number of flags can be used at a time.
b) Prove that $n - 1_{p_r} + r \cdot n - 1_{p_{r-1}} = n_{p_r}$