BINOMIAL THEOREM

INTRODUCTION OF BINOMIAL THEOREM

EXERCISE

Q.1 A child possesses 2 pencils and 3 erasers. How many ways can he choose one pencil and one eraser?

(a) 5 (b) 6 (c) 8 (d) 9

Q.2 A father, accompanied by his 8 children, visits the zoo in groups of 3 at a time, ensuring that he doesn't take the same set of 3 children together more than once. The number of visits he will make to the garden is:

(a) 336 (b) 112 (c) 56 (d) None of these

Q.3 Determine the count of 4-letter words that can be created from the letters in the word "PULSE" while allowing for repetition.

(a) 120 (b) 125 (c) 625 (d) 3125

Q.4 Determine the count of 4-letter words that can be formed from the letters in the word "PULSE" without repetition.

(a) 20 (b) 60 (c) 120 (d) 240

Q.5 Determine the count of 5-letter words that can be created from the letters in the word "PULSE" with the allowance of repetition.

(a) 25 (b) 120 (c) 125 (d) 3125

Q.6 Calculate the quantity of 5-letter words that can be constructed from the letters in the word "PULSE" without allowing repetition.

(a) 20 (b) 60 (c) 120 (d) 240

Q.7 Determine the count of 5-digit numbers that can be generated without repeating any digits.

(a) 27216 (b) 50400 (c) 100000 (d) 90000

Q.8 If an event can occur in 'm' different ways, followed by another event that can occur in 'n' different ways, then the total number of occurrences of the events in the given order is _____.

(a) m + n (b) m-n (c) mn (d) $\frac{m}{n}$

Q.9 If there are 4 paths to travel from Delhi to Kanpur, then the number of ways a person can travel from Delhi to Kanpur and come back to Delhi via a different path is _____.

(a) 4 (b) 8 (c) 12 (d) 16

Q.10 If there are four paths for traveling from Delhi to Kanpur, then in how many ways can a person travel from Delhi to Kanpur and return to Delhi via the same path?

(a) 4 (b) 8 (c) 12 (d) 16

Q.11 If there are four distinct paths for traveling from Delhi to Kanpur, then how many different ways can a person travel from Delhi to Kanpur and then return to Delhi?

(a) 4 (b) 8 (c) 12 (d) 16

ANSWER KEY

1. (b) 6
2. (c) 56
3. (c) 625
4. (c) 120
5. (d) 3125
6. (c) 120
7. (a) 27216
8. (c) mn
9. (c) 12
10. (a) 4
11. (d) 16