

Factorial/Permutation and Combination

Q1. How many trailing zeroes (zeroes at the end of the number) does 60! have?

- (a) 14 (b) 12 (c) 10 (d) 8

Q2. What is the highest power of 12 that divides 54!?

- (a) 25 (b) 26 (c) 30 (d) 4

Q3. Find the unit digit in $1! + 2! + 3! + 4! + \dots + 50!$

- (a) 1 (b) 3 (c) 5 (d) 8

Q4. Find the unit digit in $1! + 2! + 3! + 4! + \dots + 99!$

- (a) 7 (b) 3 (c) 1 (d) 0

Q5. Find the value of $\frac{7!}{5!3!}$

- (a) 7 (b) 6 (c) 5 (d) 4

Q6. Find the number of zeroes present at the end of 100!

- (a) 10 (b) 20 (c) 24 (d) 50

Q7. Find the highest power of 30 in 50!

- (a) 10 (b) 11 (c) 12 (d) None of these

Q8. How many natural numbers 'n' are there, such that 'n!' ends with exactly 30 zeroes?

- (a) 0 (b) 1 (c) 3 (d) 4

Q9. The number 2006! is written in base 22. How many zeroes are there at the end?

- (a) 450 (b) 500 (c) 199 (d) 200

Q10. In how many different ways can five friends sit for a photograph of five chairs in a row?

- (a) 120 ways (b) 24 ways (c) 240 ways (d) 720 ways

Q11. In how many ways can the letters of the word 'LEADER' be arranged?

- (a) 72 (b) 144 (c) 360 (d) 720 (e) None of these

Q12. A committee of 3 persons is to be constituted from a group of 2 men and 3 women. In how many ways can this be done?

- (a) 8 (b) 10 (c) 12 (d) 120

Q13. How many numbers are there between 99 and 1000, having at least one of their digits 7?

- (a) 250 (b) 251 (c) 252 (d) None of these

Q14. In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?

- (a) 360 (b) 480 (c) 720 (d) 5040 (e) None of these

Q15. How many 3-digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9, which are divisible by 5 and none of the digits is repeated?

- (a) 5 (b) 10 (c) 15 (d) 20

Q16. How many 5-digit telephone numbers can be constructed using the digits 0 to 9, if each number starts with 67 and no digit appears more than once?

- (a) 300 (b) 336 (c) 388 (d) 366

Q17. Find the number of permutations of the letters of the word ALLAHABAD.

- (a) 181440 (b) 362880 (c) 15120 (d) 7560

Q18. In how many of the distinct permutations of the letters in MISSISSIPPI do the four I not come together?

- (a) 840 (b) 33810 (c) 34650 (d) None of these

Q19. Determine the number of 5 card combinations out of a deck of 52 cards, if there is exactly one ace in each combination.

- (a) 778320 (b) 459620 (c) 598720 (d) None of these

Q20. A group consists of 4 girls and 7 boys. In how many ways can a team of 5 members be selected if the team has at least one boy and one girl:

- (a) 11 (b) 120 (c) 240 (d) 441

Q21. In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

- (a) 810 (b) 1440 (c) 2880 (d) 50400 (e) 5760

Q22. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

- (a) 210 (b) 1050 (c) 25200 (d) 21400 (e) None of these

Q23. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

- (a) 159 (b) 194 (c) 205 (d) 209 (e) None of these

Q24. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw?

- (a) 32 (b) 48 (c) 64 (d) 96 (e) None of these

Answer key

1	A	6	C	11	C	16	B	21	D
2	A	7	C	12	B	17	D	22	C
3	B	8	A	13	C	18	B	23	D
4	B	9	C	14	C	19	A	24	C
5	A	10	A	15	D	20	D		