

Class 11 Unit Test Test: Permutation & Combination and Binomial Theorem

Test 1 - 2027

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Duration: 60mins

Maximum Marks: 30

1 mark questions

1. Convert the following product into factorials: $5.6.7.8.9.10$
2. In how many ways can 7 letters be posted in 4 letter boxes?
3. How many terms are there in the expansion of $(25x^2 + 30xy + 9y^2)^{11}$

2 marks questions

4. How many words with or without meaning, can be formed by using all the letters of the word 'DELHI', using each letter exactly once?
5. How many words can be formed out of the letters of the word 'ARTICLE', so that vowels occupy even places?
6. Using Binomial theorem evaluate $(9999)^5$
7. How many permutations of the letters of the word 'MADHUBANI' do not begin with M but end with I?
8. If $C(2n, 3) : C(n, 2) = 44 : 3$, find n
9. In how many ways can a committee of 5 persons be formed out of 6 men and 4 women when at least one woman has to be necessarily selected?
10. Find the term independent of x in the expansion of $\left(\frac{3}{2}x^2 - \frac{1}{3x}\right)^9$.
11. Using binomial theorem write the expansion of $\left(\sqrt{\frac{x}{a}} - \sqrt{\frac{a}{x}}\right)^6$
12. There are 10 lamps in a hall. Each one of them can be switched on independently. Find the number of ways in which the hall can be illuminated

3 marks questions

13. If the letters of the word 'MOTHER' are written in all possible orders and these words are written out as in a dictionary. Find the rank of the word 'MOTHER'.
14. How many words can be formed by taking 4 letters at a time from the letters of the word 'MORADABAD'?
15. Using Binomial Theorem, prove that $2^{3n} - 7n - 1$ is divisible by 49, where $n \in N$.

[Solution to Test](#)

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