Worksheet: Permutations and Combinations

Uttar Pradesh State Board · Class 11 · Mathematics · 10 questions · 33 marks

Name: _____ Date: _____ Score: _____ / 33

Q1. A restaurant offers 4 starters, 5 main courses, and 3 desserts. In how many ways can a customer choose one of each? *[2 marks]*

Q2. Evaluate 8!/(6! x 2!). *[2 marks]*

Q3. In how many ways can a team of 3 be selected from 8 people? *[2 marks]*

Q4. How many 3-digit numbers can be formed using the digits 1 to 9 if no digit is repeated? *[3 marks]*

Q5. How many 4-letter codes can be formed using the 26 letters of the alphabet if repetition of letters is allowed? *[3 marks]*

Q6. Find the number of arrangements of the letters of the word STATISTICS. *[4 marks]*

Q7. How many chords can be drawn through 15 points lying on a circle? *[4 marks]*

Q8. Verify Pascal's identity for n=5, r=2, i.e. confirm that 5C1 + 5C2 = 6C2. *[3 marks]*

Q9. How many arrangements of the letters of the word ORANGE are there in which the vowels (O, A, E) always occur together? *[5 marks]*

Q10. A committee of 4 is to be selected from 5 men and 6 women, with at most 1 man on the committee. Find the number of ways. *[5 marks]*