Permutations And Combinations 01

01. Five-digit numbers are formed using only 0, 1, 2, 3, 4 exactly once. What is the difference between the greatest and smallest numbers that can be formed ?

(a) 19800 (b) 41976 (c) 32976 (d) None of these

02. In how many ways can Eight Directors, Vice-Chairman and Chairman of a firm be seated at a round table, if the Chairman has to sit between the Vice-Chairman and a Director ?

(a) 9! x 2 (b) 2 x 8! (c) 2 x 7! (d) None of these

03. A man has 9 friends: 4 boys and 5 girls. In how many ways can he invite them, if there have to be 3 exactly girls in the invitees ?

(a) 320 (b) 160 (c) 80 (d) 200

04. Boxes numbered 1, 2, 3, 4 and 5 are kept in a row and they which are to be filled with either a red or a blue ball, such that no two adjacent boxes can be filled with blue balls. Then, how many different arrangements are possible, given that all balls of a given colour are exactly identical in all respects ?

(a) 8 (b) 10 (c) 15 (d) 22

05. A, B, C, D are four towns, any three of which are non-collinear. Then, the number of ways to construct three roads each joining a pair of towns so that the roads do not form a triangle is ?

(a) 7 (b) 8 (c) 9 (d) 24

06. If a 4-digit number is formed with digits 1, 2, 3 and 5. What is the probability that the number is divisible by 25, if repetition of digits is not allowed ?

(a) 1/12 (b) 1/4 (c) 1/6 (d) None of these

07. A five digit number is formed using digits 1, 3, 5, 7 and 9 without repeating any one of them. What is the sum of all such possible numbers ?

(a) 6666600 (b) 6666660 (c) 6666666 (d) None of these

08. 139 persons have signed for an elimination tournament. All players are to be paired up for the first round, but because 139 is an odd number one player gets a bye, which promotes him to the second round, without actually playing in the first round. The pairing continues on the next round, with a bye to any player left over. If the schedule is planned so that a minimum number of matches is required to determine the champion, the number of matches which must be played is

(a) 136 (b) 137 (c) 138 (d) 139

09. A box contains 6 red balls, 7 green balls and 5 blue balls. Each ball is of different size. The probability that the red ball selected is the smallest red ball ?

(a) 1/18 (b) 1/3 (c) 1/6 (d) 2/3

10. A group of 630 children is arranged in rows for a group photograph session. Each row contains three fewer children than the row in front of it. What number of rows is not possible ?

(a) 3 (b) 4 (c) 5 (d) 6

Answers :

1.	C	2.	B
3.	B	4.	D
5.	D	6.	A
7.	A	8.	C
9.	C	10.	D

Detailed Solution (http://www.elitmuszone.com/elitmus/permutation-and-combinations-solution-1/)

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