Practice Questions for

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| Question | In how many different ways can the letters of the word ‘JUDGE’ be arranged in such a way that the vowels always come together? |
| Option A | 48 |
| Option B | 120 |
| Option C | 124 |
| Option D | 160 |
| Answer | Option A |
| Explanation | |  |  |  | | --- | --- | --- | | The word JUDGE has 5 different letters. | | | | When, the vowels UE are always together, they can be supposed to form one letter. | | | | Then, we have to arrange the letters **JDG(UE)**. | | | | Now, 4 letters can be arranged in 4! = 24 ways. | | | | The vowels (UE) can be arranged in 2!= 2 ways. | | | | Required number of ways | = (24 x 2) |  | | **= 48.** |  | |

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| Question | In how many ways can the letters of the word 'LEADER' be arranged? |
| Option A | 72 |
| Option B | 144 |
| Option C | 360 |
| Option D | 720 |
| Answer | Option C |
| Explanation | |  |  |  | | --- | --- | --- | | The word 'LEADER' contains 6 letters namely 1L , 2 E, 1A,1D, and 1R. | | | | Required number of ways | = 6! / (1!) (2!) (1!) (2!) |  | | **= 360.** |  | |

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| Question | In how many ways can a group of 5 men and 2 women be made out of a total of 7 men and 3 women? |
| Option A | 63 |
| Option B | 90 |
| Option C | 126 |
| Option D | 45 |
| Answer | Option A |
| Explanation | |  |  | | --- | --- | | Required number of ways | = **(7C2 ×3C2)** | | = **(7C2 ×3C1)** | | | | = ( 7 ×6 / 2 ×1 ×3) |  |  | | **‹=›63.** |  |  | |

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| Question | 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? |
| Option A | 5 |
| Option B | 10 |
| Option C | 15 |
| Option D | 20 |
| Answer | Option D |
| Explanation | |  |  |  | | --- | --- | --- | | Since each desired number is divisible by 5, so we must have 5 at the unit place. So, there is 1 way of doing it. | | | | Tens place can be filled by any of the remaining 5 numbers. | | | | So, there are 5 ways of filling the tens place. | |  | | The hundreds place can now be filled by any one of the remaining 4 digits. So there are 4 ways of filling it. | | | | **Required number of numbers(1x5x4) = 20** |  |  | |

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| Question | In how many different ways can the letters of the word 'RUMOUR' be arranged? |
| Option A | 180 |
| Option B | 90 |
| Option C | 30 |
| Option D | 720 |
| Answer | Option A |
| Explanation | |  |  |  | | --- | --- | --- | | The word 'RUMOUR' contains 6 letters, namely 2R, 2U, 1M and 1U. | | | | Required number of ways | = **6 ! / (2!) (2!) (1!) (1 !)** |  | | **‹=›180..** |  | |

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| Question | The value of **75P2**is |
| Option A | 2775 |
| Option B | 150 |
| Option C | 5550 |
| Option D | None of these |
| Answer | Option C |
| Explanation | |  |  | | --- | --- | | **75P2** | = 75 ! / 73 ! | | **‹=›**75 x 74 x (73!) / 73! | | **‹=›**(75 x 74). | | **‹=› 5550.** | |
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| Question | 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? |
| Option A | 48 |
| Option B | 64 |
| Option C | 69 |
| Option D | 71 |
| Answer | Option B |
| Explanation | |  |  | | --- | --- | | we may have(1 black and 2 non-black) or ( 2 black and 1 non black) or ( 3 black). | | | Required number of ways | **‹=›(3C1 × 6C2) + (3C2 ˜6C1) + (3C3)** | | **‹=›**(3 x 6 x 5 / 2 x 1) + (3 x 2 / 2 x 1 x 6) + 1 | | **‹=›** (45 + 18 + 1) | | **= 64.** | |

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| Question | How many words can be formed from the letters of the word 'SIGNATURE' so that the vowels always come together? |
| Option A | 720 |
| Option B | 1440 |
| Option C | 2880 |
| Option D | 17280 |
| Answer | Option D |
| Explanation | |  |  |  | | --- | --- | --- | | The word SIGNATURE has 9 different letters. | | | | When, the vowels IAUE are always together, they can be supposed to form one letter. | | | | Then, we have to arrange the letters SGNTR (IAUE). | | | | These 6 letters can be arranged in **6P6**= 6 ! = 720 ways. | | | | The vowels (IAUE) can be arranged in**4P4** = 4! = 24 ways. | | | | Required number of ways | = (720 x 24) |  | | **= 17280..** |  | |

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| Question | Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed? |
| Option A | 210 |
| Option B | 1050 |
| Option C | 25200 |
| Option D | 21400 |
| Answer | Option C |
| Explanation | Number of ways of selecting (3 consonants out of 7) and (2 vowels out of 4)   |  |  | | --- | --- | |  | = (7C3 x 4C2) | |  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 7 x 6 x 5 | x | 4 x 3 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | | 3 x 2 x 1 | 2 x 1 | | |  | = 210. |   Number of groups, each having 3 consonants and 2 vowels = 210.  Each group contains 5 letters.   |  |  | | --- | --- | | Number of ways of arranging  5 letters among themselves | = 5! | |  | = 5 x 4 x 3 x 2 x 1 | |  | = 120. |   http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required number of ways = (210 x 120) = 25200. |

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| Question | In how many ways a committee, consisting of 5 men and 6 women can be formed from 8 men and 10 women? |
| Option A | 266 |
| Option B | 5040 |
| Option C | 11760 |
| Option D | 86400 |
| Answer | Option C |
| Explanation | |  |  | | --- | --- | | Required number of ways | = (8C5 x 10C6) | |  | = (8C3 x 10C4) | |  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | = http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 8 x 7 x 6 | x | 10 x 9 x 8 x 7 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | | 3 x 2 x 1 | 4 x 3 x 2 x 1 | | |  | = 11760. | |

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| Question | In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions? |
| Option A | 32 |
| Option B | 48 |
| Option C | 36 |
| Option D | 60 |
| Answer | Option C |
| Explanation | There are 6 letters in the given word, out of which there are 3 vowels and 3 consonants.  Let us mark these positions as under:  (1) (2) (3) (4) (5) (6)  Now, 3 vowels can be placed at any of the three places out 4, marked 1, 3, 5.  Number of ways of arranging the vowels = 3P3 = 3! = 6.  Also, the 3 consonants can be arranged at the remaining 3 positions.  Number of ways of these arrangements = 3P3 = 3! = 6.  Total number of ways = (6 x 6) = 36. |

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| Question | How many different four letter words can be formed (the words need not be meaningful) using the letters of the word "MEDITERRANEAN" such that the first letter is E and the last letter is R? |
| Option A | 59 |
| Option B | 11! / (2!*2!*2!) |
| Option C | 56 |
| Option D | 23 |
| Answer | Option A |
| Explanation | The first letter is E and the last one is R.  Therefore, one has to find two more letters from the remaining 11 letters.  Of the 11 letters, there are 2 Ns, 2Es and 2As and one each of the remaining 5 letters.  The second and third positions can either have two different letters or have both the letters to be the same.  **Case 1**: When the two letters are different. One has to choose two different letters from the 8 available different choices. This can be done in 8 \* 7 = 56 ways.  **Case 2**: When the two letters are same. There are 3 options - the three can be either Ns or Es or As. Therefore, 3 ways.  Total number of posssibilities = 56 + 3 = 59 |

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| Question | In how many ways can 5 letters be posted in 3 post boxes, if any number of letters can be posted in all of the three post boxes? |
| Option A | 5 C 3 |
| Option B | 5 P 3 |
| Option C |  |
| Option D |  |
| Answer | Option D |
| Explanation | The first letter can be posted in any of the 3 post boxes. Therefore, it has 3 choices.  Similarly, the second, the third, the fourth and the fifth letter can each be posted in any of the 3 post boxes.  Therefore, the total number of ways the 5 letters can be posted in 3 boxes is 3\*3\*3\*3\*3 = 35 |

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| Question | In how many ways can the letters of the word "PROBLEM" be rearranged to make 7 letter words such that none of the letters repeat? |
| Option A | 7! |
| Option B | 7C7 |
| Option C |  |
| Option D | 49 |
| Answer | Option A |
| Explanation | There are seven positions to be filled.  The first position can be filled using any of the 7 letters contained in PROBLEM. The second position can be filled by the remaining 6 letters as the letters should not repeat. The third position can be filled by the remaining 5 letters only and so on.  Therefore, the total number of ways of rearranging the 7 letter word = 7\*6\*5\*4\*3\*2\*1 = 7! Ways. |

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| Question | In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together? |
| Option A | 120 |
| Option B | 720 |
| Option C | 4320 |
| Option D | 2160 |
| Answer | Option B |
| Explanation | The word 'OPTICAL' contains 7 different letters.  When the vowels OIA are always together, they can be supposed to form one letter.  Then, we have to arrange the letters PTCL (OIA).  Now, 5 letters can be arranged in 5! = 120 ways.  The vowels (OIA) can be arranged among themselves in 3! = 6 ways.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required number of ways = (120 x 6) = 720. |