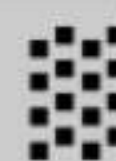


# Practice Exercise



## Level - I

- The sum of all the four digit even numbers which can be formed by using the digits 0, 1, 2, 3, 4 and 5 if repetition of digits is allowed is  
(a) 1765980 (b) 1756980  
(c) 1769580 (d) 1759680
- How many words beginning with vowels can be formed with the letters of the word EQUATION?  
(a) 25200 (b) 15200  
(c) 25300 (d) 35200
- The number of words that can be formed out of the letters of the word COMMITTEE is  
(a)  $\frac{9!}{(2!)^3}$  (b)  $\frac{9!}{(2!)^2}$   
(c)  $\frac{9!}{2!}$  (d)  $9!$
- If  ${}^{10}P_r = 720$ , then  $r$  is equal to  
(a) 4 (b) 2  
(c) 3 (d) 1
- Number of ways in which 12 different balls can be divided into groups of 5, 4 and 3 balls are  
(a)  $\frac{12!}{5!4!}$  (b)  $\frac{12!}{5!4!3!}$   
(c)  $\frac{12!}{5!4!3!3!}$  (d) None of these
- How many different letter arrangements can be made from the letter of the word EXTRA in such a way that the vowels are always together?  
(a) 48 (b) 60  
(c) 40 (d) 30
- In how many ways can a committee of 5 made out 6 men and 4 women containing atleast one woman?  
(a) 246 (b) 222  
(c) 186 (d) None of these
- How many integers greater than 5000 can be formed with the digit 7, 6, 5, 4 and 3, using each digit at most once?  
(a) 72 (b) 144  
(c) 84 (d) 192
- Every body in a room shakes hands with every else. If total number of hand-shaken is 66, then number of persons in the room is  
(a) 11 (b) 12  
(c) 13 (d) 14
- The number of words from the letters of the words BHARAT in which B and H will never come together, is  
(a) 360 (b) 240  
(c) 120 (d) None of these
- A bag contains 3 black, 4 white and 2 red balls, all the balls being different. The number of at most 6 balls containing balls of all the colours is  
(a)  $42(4!)$  (b)  $2^6 \times 4!$   
(c)  $(2^6 - 1)(4!)$  (d) None of these
- How many different ways are possible to arrange the letters of the word "MACHINE" so that the vowels may occupy only the odd positions?  
(a) 800 (b) 125  
(c) 348 (d) 576
- If  ${}^nP_r = {}^nP_{r+1}$  and  ${}^nC_r = {}^nC_{r-1}$ , then the values of  $n$  and  $r$  are  
(a) 4, 3 (b) 3, 2  
(c) 4, 2 (d) None of these
- If  ${}^nP_r = 720$   ${}^nC_r$ , then  $r$  is equal to  
(a) 3 (b) 7  
(c) 6 (d) 4
- In how many ways a hockey team of eleven can be elected from 16 players?  
(a) 4368 (b) 4267  
(c) 5368 (d) 4166
- In how many ways can twelve girls be arranged in a row if two particular girls must occupy the end places?  
(a)  $\frac{10!}{2!}$  (b)  $12!$   
(c)  $10! \times 2!$  (d)  $\frac{12!}{2!}$
- To fill a number of vacancies, an employer must hire 3 programmers from among 6 applicants, and 2 managers from among 4 applicants. What is the total number of ways in which she can make her selection?  
(a) 1,490 (b) 132  
(c) 120 (d) 60
- A father has 2 apples and 3 pears. Each weekday (Monday through Friday) he gives one of the fruits to his daughter. In how many ways can this be done?  
(a) 120 (b) 10  
(c) 24 (d) 12



19. If a secretary and a joint secretary are to be selected from a committee of 11 members, then in how many ways can they be selected?  
 (a) 110 (b) 55  
 (c) 22 (d) 11
20. On a railway route there are 20 stations. What is the number of different tickets required in order that it may be possible to travel from every station to every other station?  
 (a) 40 (b) 380  
 (c) 400 (d) 420
21. If  $P(32, 6) = kC(32, 6)$ , then what is the value of  $k$ ?  
 (a) 6 (b) 32  
 (c) 120 (d) 720
22. How many straight lines can be formed from 8 non-collinear points on the  $X$ - $Y$  plane?  
 (a) 28 (b) 56  
 (c) 18 (d) 19860
23. A man has 3 shirts, 4 trousers and 6 ties. What are the number of ways in which he can dress himself with a combination of all the three?  
 (a) 13 (b) 72  
 (c)  $13! \cdot 3! \cdot 4! \cdot 6!$  (d)  $3! \cdot 4! \cdot 6!$
24. If  $({}^{28}C_{2r} : {}^{24}C_{2r-4}) = 225 : 11$ . Find the value of  $r$ .  
 (a) 10 (b) 11  
 (c) 7 (d) 9
25. How many numbers can be formed with the digits 1, 6, 7, 8, 6, 1 so that the odd digits always occupy the odd places.  
 (a) 15 (b) 12  
 (c) 18 (d) 20
26. There are 20 people among whom two are sisters. Find the number of ways in which we can arrange them around a circle so that there is exactly one person between the two sisters.  
 (a)  $18!$  (b)  $2!19!$   
 (c)  $19!$  (d) None of these
27. In a company, each employee gives a gift to every other employee. If the number of gifts is 61, then the number of employees in the company is :  
 (a) 11 (b) 13  
 (c) 12 (d) 8
28. There are three rooms in a hotel: one single, one double and one for four persons. How many ways are there to house seven persons in these rooms?  
 (a)  $7!/1!2!4!$  (b)  $7!$   
 (c)  $7!/3$  (d)  $7!/3!$
29. The digits, from 0 to 9 are written on 10 slips of paper (one digit on each slip) and placed in a box. If three of the slips are drawn and arranged, then the number of possible different arrangements is  
 (a) 1000 (b) 720  
 (c) 810 (d) None of these
30. The number of ways in which 7 different books can be given to 5 students if each can receive none, one or more books is  
 (a)  $5^7$  (b)  $7^5$   
 (c)  ${}^{11}C_5$  (d)  $12!$
31. In how many ways can 13 different alphabets ( $a, b, c, \dots, m$ ) be arranged so that the alphabets  $f$  and  $g$  never come together?  
 (a)  $13! - 12!$  (b)  $13! - 12! / 2!$   
 (c)  $13! - 2 \times 12!$  (d) None of these
32. Number of ways in which the letters of word GARDEN can be arranged with vowels in alphabetical order, is  
 (a) 360 (b) 240  
 (c) 120 (d) 480
33. If 5 parallel straight lines are intersected by 4 parallel straight lines, then the number of parallelograms thus formed is  
 (a) 20 (b) 60  
 (c) 101 (d) 126
34. The number of ways in which a couple can sit around a table with 6 guests if the couple take consecutive seat is  
 (a) 1440 (b) 720  
 (c) 5040 (d) None of these
35. How many different words beginning with O and ending with E can be formed with the letters of the word ORDINATE, so that the words are beginning with O and ending with E?  
 (a)  $8!$  (b)  $6!$   
 (c)  $7!$  (d)  $7!/2!$
36. How many 6 digit number can be formed from the digits 1, 2, 3, 4, 5, 6 which are divisible by 4 and digits are not repeated?  
 (a) 192 (b) 122  
 (c) 140 (d) 242
37. In how many ways can the eight directors, the vice-chairman and the chairman of a firm be seated at a round-table, if the chairman has to sit between the vice-chairman and the director?  
 (a)  $9! \times 2$  (b)  $2 \times 8!$   
 (c)  $2 \times 7!$  (d) None of these
38. In how many different ways can the letters of the word 'CREAM' be arranged ? [SBI Clerk-June-2012]  
 (a) 720 (b) 240  
 (c) 360 (d) 504  
 (e) None of these
39. Which of the following words can be written in 120 different ways? [IBPS Clerk-2012]  
 (a) STABLE (b) STILL  
 (c) WATER (d) NOD  
 (e) DARE



## Level - II

- 5 men and 6 women have to be seated in a straight row so that no two women are together. Find the number of ways this can be done.  
(a) 48400 (b) 39600  
(c) 9900 (d) 86400
- The total number of ways in which 8 men and 6 women can be arranged in a line so that no 2 women are together is  
(a) 48 (b)  ${}^8P_8 \cdot {}^9P_6$   
(c)  $8!(84)$  (d)  ${}^8C_8 \cdot {}^9C_8$
- The number of different ways in which 8 persons can stand in a row so that between two particular person  $A$  and  $B$  there are always two person, is  
(a)  $60(5!)$  (b)  $15(4!) \times (5!)$   
(c)  $4! \times 5!$  (d) None of these
- From 6 boys and 7 girls a committee of 5 is to be formed so as to include atleast one girl. The number of ways this can be done is  
(a)  ${}^{13}C_4$  (b)  ${}^6C_4 \cdot {}^7C_1$   
(c)  $7 \cdot {}^6C_4$  (d)  ${}^{13}C_5 - {}^6C_1$
- How many different nine digit numbers can be formed from the number 223355888 by rearranging its digits so that the odd digits occupy even positions?  
(a) 16 (b) 36  
(c) 60 (d) 180
- If two dices are tossed simultaneously, the number of elements in the resulting sample space is  
(a) 6 (b) 8  
(c) 36 (d) 24
- In how many ways can 7 persons stand in the form of a ring?  
(a)  $P(7, 2)$  (b)  $7!$   
(c)  $6!$  (d)  $\frac{7!}{2}$
- In a football championship 153 matches were played. Every team played one match with each other team. How many teams participated in the championship?  
(a) 21 (b) 18  
(c) 17 (d) 15
- If  $P(77, 31) = x$  and  $C(77, 31) = y$ , then which one of the following is correct?  
(a)  $x = y$  (b)  $2x = y$   
(c)  $77x = 31y$  (d)  $x > y$
- In how many ways can 12 papers be arranged if the best and the worst paper never come together?  
(a)  $12!/2!$  (b)  $12! - 11!$   
(c)  $(12! - 11!)/2$  (d)  $12! - 2 \cdot 11!$
- If a team of four persons is to be selected from 8 males and 8 females, then in how many ways can the selections be made to include at least one male.  
(a) 1550 (b) 1675  
(c) 1725 (d) 1750
- Letters of the word DIRECTOR are arranged in such a way that all the vowels come together. Find out the total number of ways for making such arrangement.  
(a) 4320 (b) 2720  
(c) 2160 (d) 1120
- 4 boys and 2 girls are to be seated in a row in such a way that the two girls are always together. In how many different ways can they be seated?  
(a) 1200 (b) 7200  
(c) 148 (d) 240
- In how many ways can 7 Englishmen and 7 Americans sit down at a round table, no 2 Americans being in consecutive positions?  
(a) 3628800 (b) 2628800  
(c) 3628000 (d) 3328800
- How many numbers greater than one million can be formed with 2, 3, 0, 3, 4, 2, 3? (repetitions not allowed)  
(a) 720 (b) 360  
(c) 120 (d) 240
- 5 Indian and 5 American couples meet at a party & shake hands. If no wife shakes hands with her husband and no Indian wife shakes hands with a male, then the number of hand shakes that takes place in the party is  
(a) 95 (b) 110  
(c) 135 (d) 150
- The total number of ways in which letters of the word ACCOST can be arranged so that the two C's never come together will be  
(a) 120 (b) 360  
(c) 240 (d)  $6! - 2!$
- In how many ways can a team of 11 cricketers be chosen from 6 bowlers, 4 wicket keepers and 11 batsmen to give a majority of bastemen if at least 4 bowlers are to be included and there is one wicket keeper?  
(a) 27730 (b) 27720  
(c) 17720 (d) 26720
- Three dice are rolled. The number of possible outcomes in which at least one die shows 5 is  
(a) 215 (b) 36  
(c) 125 (d) 91



20. The sides  $AB$ ,  $BC$ ,  $CA$  of a triangle  $ABC$  have 3, 4 and 5 interior points respectively on them. The total number of triangles that can be constructed by using these points as vertices is  
 (a) 220 (b) 204  
 (c) 205 (d) 195
21. If all permutations of the letters of the word AGAIN are arranged as in dictionary, then fiftieth word is  
 (a) NAAGI (b) NAGAI  
 (c) NAAIG (d) NAIAG
22. All the words that can be formed using alphabets  $A, H, L, U$  and  $R$  are written as in a dictionary (no alphabet is repeated). Rank of the word RAHUL is  
 (a) 71 (b) 72  
 (c) 73 (d) 74
23. How many new words are possible from the letters of the word PERMUTATION?  
 (a)  $11!/2!$  (b)  $(11!/2!) - 1$   
 (c)  $11! - 1$  (d) None of these
24. There are five boys and three girls who are sitting together to discuss a management problem at a round table. In how many ways can they sit around the table so that no two girls are together?  
 (a) 1220 (b) 1400  
 (c) 1420 (d) 1440
25. How many 6-digit numbers have all three digits either all odd or all even?  
 (a) 31,250 (b) 28,125  
 (c) 15,625 (d) None of these
26. Out of 10 consonants and four vowels, the number of words that can be formed using six consonants and three vowels is  
 (a)  ${}^{10}P_6 \times {}^6P_3$  (b)  ${}^{10}C_6 \times {}^6C_3$   
 (c)  ${}^{10}C_6 \times {}^4C_3 \times 9!$  (d)  ${}^{10}P_6 \times {}^4P_3$
27. The number of 5 digit numbers that can be made using the digits 1 and 2 and in which at least one digit is different, is  
 (a) 30 (b) 31  
 (c) 32 (d) None of these
28. A class photograph has to be taken. The front row consists of 6 girls who are sitting. 20 boys are standing behind. The two corner positions are reserved for the 2 tallest boys. In how many ways can the students be arranged?  
 (a)  $18! \times 1440$  (b)  $6! \times 1440$   
 (c)  $18! \times 2! \times 1440$  (d) None of these
29.  $A, B, C$  and  $D$  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) More than 9
30. There are 10 points on a line and 11 points on another line, which are parallel to each other. How many triangles can be drawn taking the vertices on any of the line?  
 (a) 1,050 (b) 2,550  
 (c) 150 (d) 1,045
31. How many motor vehicle registration number plates can be formed with the digits 1, 2, 3, 4, 5 (No digits being repeated) if it is given that registration number can have 1 to 5 digits?  
 (a) 100 (b) 120  
 (c) 325 (d) 205
32. How many different 9-digit numbers can be formed from the number 223355888 by rearranging its digits so that the odd digits occupy even positions?  
 (a) 120 (b)  $9!(2!)^3 \cdot 3!$   
 (c)  $(4!)(2!)^3 \cdot (3!)$  (d) None of these
33. There are 5 different Jeffrey Archer books, 3 different Sidney Sheldon books and 6 different John Grisham books. The number of ways in which at least one book can be given away is  
 (a)  $2^{10} - 1$  (b)  $2^{11} - 1$   
 (c)  $2^{12} - 1$  (d)  $2^{14} - 1$
34. How many natural numbers not more than 4300 can be formed with the digits 0, 1, 2, 3, 4 (if repetitions are allowed)?  
 (a) 574 (b) 570  
 (c) 575 (d) 569
35. The sides of a triangle have 4, 5 and 6 interior points marked on them respectively. The total number of triangles that can be formed using any of these points  
 (a) 371 (b) 415  
 (c) 286 (d) 421
36. Total number of ways in which six '+' and four '-' signs can be arranged in a line such that no two '-' signs occur together, is  
 (a) 35 (b) 18  
 (c) 15 (d) 42
37. In how many ways can 5 prizes be distributed among 4 boys when every boy can take one or more prizes?  
 (a) 1024 (b) 625  
 (c) 120 (d) 600
38. Three dice are rolled. The number of possible outcomes in which at least one die shows 5 is  
 (a) 215 (b) 36  
 (c) 125 (d) 91
39. Find the number of numbers between 300 and 3000 that can be formed with the digits 0, 1, 2, 3, 4 and 5, no digit being repeated. [SBI PO-2011]  
 (a) 120 (b) 160  
 (c) 240 (d) 60  
 (e) None of these