

Type 1 Simple

- If ${}^{n+3}P_6 \div {}^{n+2}P_4 = 14$, then the value of n is :
 - 8
 - 5
 - 4
 - 2
- If ${}^{20}P_r = 13 \times {}^{20}P_{r-1}$, then $r = \dots\dots$
 - 5
 - 6
 - 7
 - 8
- If $P(n, r) = P(n, r + 1)$ and $C(n, r) = C(n, r - 1)$, then find the values of n and r are :
 - (2, 4)
 - (3, 2)
 - (3, 4)
 - None of these
- The value of r , when ${}^{12}P_r = 1320$ is :
 - 3
 - 4
 - 6
 - 7
- $\frac{{}^n P_r}{{}^n P_{r-1}}$ is equal to :
 - $\frac{n-r}{n-r+1}$
 - $(n-r+1)$
 - $\frac{n}{n-r}$
 - None of these
- If ${}^{n-1}P_3 \div {}^{n+1}P_3 = 5/12$, then the value of n is :
 - 8
 - 4
 - 5
 - 2
- If ${}^5P_r = 60$, then the value of r is :
 - 3
 - 2
 - 4
 - None of these
- If ${}^{n_1+n_2}P_2 = 132$, ${}^{n_1-n_2}P_2 = 30$ then,
 - $n_1 = 6, n_2 = 6$
 - $n_1 = 10, n_2 = 2$
 - $n_1 = 9, n_2 = 3$
 - none of these
- If ${}^n P_3 : {}^n P_2 = 3 : 1$, then n is equal to ;
 - 7
 - 4
 - 5
 - None of these
- In ${}^n P_r$, the restriction is :
 - $n > r$
 - $n \geq r$
 - $n \leq r$
 - None of these
- The value of $\frac{{}^{12}P_4}{{}^{18}P_3}$ is :
 - $\frac{165}{68}$
 - 720
 - 5040
 - None of these
- If ${}^n P_2 = 3 {}^n C_3$, then n is equal to :
 - 7
 - 4
 - 6
 - none of these
- $\frac{{}^n P_{r-1}}{{}^{n-1} P_{r-1}}$ is equal to :
 - $\frac{n}{n-r+1}$
 - $\frac{r}{n-r}$
 - $\frac{n}{n-1}$
 - None of these
- Which one of the following is not correct :
 - ${}^n P_r = n {}^{n-1} P_{r-1}$
 - ${}^n P_r = r \cdot {}^{n-1} P_{r-1}$
 - ${}^{n+1} P_r = {}^n P_r + r \cdot {}^n P_{r-1}$
 - ${}^n P_r = {}^{n-1} P_r + r \cdot {}^{n-1} P_{r-1}$
- $r \cdot {}^{n-1} P_{r-1} + {}^{n-1} P_r$ is equal to :
 - ${}^n P_r$
 - ${}^n C_r$
 - ${}^n P_{r+1}$
 - None of these
- If ${}^n P_r = 336$ and ${}^n C_r = 56$, then n and r will be :
 - (3, 2)
 - (8, 3)
 - (7, 4)
 - None of these
- $(2n)!$ can be written as :
 - $2^n \{1.3.5.\dots.(2n-1)\}n!$
 - $2^n n!$
 - $\{1.3.5.\dots.(2n-1)\}$
 - None of these
- The value of $\frac{C(12, 8)}{C(12, 6)}$ simplifies to :
 - $\frac{6}{12}$
 - $\frac{8}{12}$
 - $\frac{12}{8}$
 - $\frac{15}{28}$
- The value of $(4!)^{0!}$ is equal to :
 - 1
 - 4
 - 0
 - 24
- The value of $\frac{8!}{4!}$ is equal to :
 - 2!
 - 4!
 - 1680
 - 120
- 5! is equal to :
 - 25
 - 5
 - 120
 - 1
- If ${}^n P_3 = 60$, n must be equal to :
 - 5
 - 10
 - 15
 - 4
- If ${}^{12}P_r = 1320$, then $r = ?$
 - 3
 - 4
 - 5
 - 6
- If ${}^n P_5 = 20$, ${}^n P_3$, then $n = ?$
 - 8
 - 9
 - 10
 - 11
- If ${}^{15}P_{r-1} : {}^{16}P_{r-2} = 3 : 4$, then $r = ?$
 - 8
 - 14

- c) 12 d) 10
26. The value of $2 \times {}^7C_4$ is :
a) 60 d) 70
c) 80 d) 65
27. The value of ${}^{25}C_{22} - {}^{24}C_{21}$ is :
a) 276 b) 267
c) 286 d) 287
28. If ${}^{2n}C_3 : {}^nC_2 = 12 : 1$, then the value of n is :
a) 4 b) 5
c) 6 d) 10
29. The quantity $1 + C(3, 1) + C(4, 2)$:
a) $C(5, 3)$ b) $C(5, 2)$
c) $C(4, 1)$ d) None of these
30. If $C(n, r) : C(n, r+1) = 1 : 2$ and
 $C(n, r+1) : C(n, r+2) = 2 : 3$, determine the
value of n and r .
a) (14, 4) b) (12, 4)
c) (14, 6) d) None of these
31. If ${}^{18}C_r = {}^{18}C_{r+2}$, then the value of r is :
a) 8 b) 6
c) 4 d) 7
32. If $C(50, 13) = C(50, r)$, then the value of r is:
a) 37 b) 13
c) 50 d) None of these
33. The value $\frac{C(15, 11)}{C(15, 10)}$ simplifies to :
a) $\frac{5}{11}$ b) $\frac{15}{11}$
c) $\frac{15}{10}$ d) $\frac{5}{10}$
34. The number of ways in which 5 single rooms
in a Hostel can be occupied by 3 students is:
a) 60 b) 10
c) 40 d) None of these
35. $C(15, 13)$ is equal to :
a) 105 b) 2
c) 28 d) None of these
36. $C(11, 9)$ is equal to :
a) 56 b) 20
c) 99 d) 55
37. If $C(n, 3) = C(n, 7)$, then n is equal to :
a) 10 b) 7
c) 3 d) None of these
38. If $C(n, 2) = C(n, 8)$, then value of n is :
a) 16 b) 6
c) 4 d) 10
39. If $C(11, 9) = C(11, r)$, then the value of r is :
a) 2 b) 11
c) 3 d) None of these
40. If $C(22, r) = C(22, 10)$, then the value of r is
:
a) 12 b) 10
c) 22 d) None of these
41. If $C(20, 2r) = C(20, 2r - 4)$, then the value of
 r is :
a) 6 b) 5
c) 4 d) None of these
42. If $C(21, r) = C(21, 3r - 3)$, then the value of r
is:
a) 4 b) 5
c) 6 d) None of these
43. If ${}^nC_6 = {}^nC_5$, then n is equal to :
a) 11 b) 6
c) 7 d) None of these
44. $C(31, 26) - C(30, 26)$ is equal to :
a) ${}^{31}C_{25}$ b) ${}^{30}C_{25}$
c) ${}^{31}C_{24}$ d) None of these
45. If $C(n, 10) = C(n, 14)$, then n is equal to :
a) 24 b) 4
c) 10 d) ${}^{31}C_{25}$
46. Which one of the following is not correct?
a) ${}^nC_r = {}^nC_{n-r}$ b) ${}^nC_r = {}^nC_{n+r}$
c) ${}^nC_r + {}^nC_{r+1} = {}^{n+1}C_{r+1}$ d) ${}^nC_{r-1} + {}^nC_r = {}^{n+1}C_r$
47. ${}^nC_r + {}^nC_{r-1}$ equal to :
a) ${}^{n+1}C_r$ b) ${}^{n+1}C_{r-1}$
c) nC_r d) None of these
48. ${}^nC_r + {}^nC_{r+1}$ is equal to :
a) nC_r b) ${}^{n+1}C_{r+1}$
c) ${}^{n+1}C_r$ d) None of these
49. If ${}^nC_6 \div {}^{n-2}C_3 = 35/2$, then the value of n is :
a) 15 b) 14
c) 13 d) None of these
50. If ${}^nC_{10} = {}^nC_{14}$, then ${}^{25}C_n$ is :
a) 24 b) 25
c) 1 d) None of these
51. If ${}^{18}C_r = {}^{18}C_{r+2}$, then rC_5 is :
a) 55 b) 50
c) 56 d) None of these
52. If ${}^{18}C_n = {}^{18}C_{n+2}$ then n is :
a) 0 b) -2
c) 8 d) None of these
53. If ${}^nC_x = {}^nC_y$ then :
a) $x = y$ b) $x + y = n$
c) either $x = y$ or $x + y = n$
d) None of these
54. The value of $\frac{C(15, 11)}{C(15, 10)}$ simplifies to :
a) $\frac{5}{11}$ b) $\frac{11}{15}$
c) $\frac{15}{10}$ d) None of these
55. The value of $\frac{C(16, 7)}{C(16, 6)}$ simplifies to :
a) $\frac{7}{10}$ b) $\frac{10}{7}$
c) $\frac{15}{7}$ d) None of these
56. The value of ${}^{20}C_0$ is :
a) 20 b) 0
c) 1 d) None of these

57. If ${}^nC_2 = n$, then the value of n is :
 a) 4 b) 3
 c) 2 d) 10
58. If ${}^6C_r + {}^6C_{r-1} = {}^nC_r$, $1 \leq r \leq 6$, the value of n is :
 a) 12 b) 8
 c) 9 d) 7
59. If ${}^nC_r + {}^nC_{r+1} = {}^{n+1}C_x$, then $x = ?$
 a) $r - 1$ b) r
 c) $r + 1$ d) n

Type 2

1. The number of different words that can be formed meaningful or not from the letters of the word LAHORE is :
 a) 6! b) 5!
 c) 3! d) None of these
2. How many words beginning with T and ending with E can be made (with no letter repeated) out of the letters of the word "TRIANGLE"?
 a) 8P_6 b) 720
 c) 1440 d) 722
3. How many words can be formed from the letters of the word 'DAUGHTER' so that the vowels always come together?
 a) 720 b) 726
 c) 4320 d) None
4. How many words can be formed from the letters of the word 'DAUGHTER' so that the vowels are never together?
 a) 4320 b) 3600
 c) 40320 d) 36000
5. In how many ways can the word 'PENCIL' be arranged so that N is always next to E?
 a) 1440 b) 720
 c) 240 d) 120
6. In how many ways can the letters of the word 'MACHINE' be arranged so that the vowels may occupy only odd positions?
 a) $(4 \times 7!)$ b) 576
 c) 288 d) None
7. How many words can be formed using the letters A thrice, the letter B twice and the letter C once?
 a) 60 b) 120
 c) 90 d) 6
8. How many words can be formed by using all the letters of the word 'ALLAHABAD'?
 a) 3780 b) 1890
 c) 7560 d) 9!
9. In how many ways can the letters of the word HEXAGON be permuted?
 a) 5040 b) 620
 c) 465 d) 278
10. In how many ways can the letters of the word "STRANGE" be arranged so that vowels may appear in the odd places :
 a) 1440 b) 1460
 c) 1340 d) 1360
11. How many different words can be formed with letters of the word CAPTAIN such that C and T are never together?
 a) 1800 b) 2520
 c) 720 d) None of these
12. How many ways of the word MATHEMATICS can be arranged so that the vowels occur together?
 a) $11! / (2!)^3$ b) $12! / (2!)^3$
 c) $(8! \times 4!) / (2!)^3$ d) None of these
13. The number of arrangements of the letters in the word FAILURE, so that vowels are always coming together is :
 a) 576 b) 575
 c) 570 d) None of these
14. How many arrangement are possible out of the letters of the word HARYANA keeping 'H' and 'N' together?
 a) 360 b) 240
 c) 840 d) 20
15. In how many ways the word 'ARRANGE' be arranged such, that the 2R's come together?
 a) 400 b) 440
 c) 360 d) None of these
16. In how many ways the word ARRANGE be arranged such that the 2 R's and 2 A's come together?
 a) 120 b) 130
 c) 140 d) None of these
17. In how many ways the vowels of the word ALLAHABAD will occupy the even places?
 a) 120 b) 60
 c) 30 d) None of these
18. In how many way can be letters of the word 'VIOLENT' be arranged so that the vowels occupy even places only?
 a) 1440 b) 240
 c) 480 d) 144
19. The number of arrangements that can be made with the word 'ASSASSINATION' is :
 a) $13! \div [3! \times 4! \times (2!)^2]$
 b) $13! \div [3! \times 4! \times 2!]$ c) 13!
 d) None of these
20. How many words can be formed beginning with 'N' and ending in 'A' with the letters of the word 'SUNDAY'?
 a) 6! b) 5!
 c) 4! d) None of these
21. The number of of permutation of the word engineering is :
 a) $11! \div [(3i)^2 (2!)^2]$ b) 11!
 c) $11! \div [(3i) (2!)]$ d) None of these
22. In how many ways can a consonant and a vowel be chosen out of the letters of the word 'LOGARITHM'?
 a) 18 b) 15
 c) 3 d) None of these
23. In how many ways the letters of the word 'FAILURE' can be arranged with the condition that the four vowels are always together?

- a) $(4!)^2$ b) 4!
 c) 7! d) None of these
24. Find how many five letter words can be formed out of the word 'LOGARITHMS' (the words may not convey any meaning) :
- a) ${}^{10}P_5$ b) ${}^{10}C_5$
 c) 9C_4 d) None of these
25. If ${}^nP_6 = 840$ C (n, 7), then the value of n is :
- a) 12 b) 6
 c) 18 d) None of these
26. How many words can be formed with the letters of the word 'ORIENTAL' so that A and E always occupy odd places :
- a) 8540 b) 8640
 c) 8460 d) 8540

Type 3

1. If all the permutations of the letters of the word 'CHALK' are written in a dictionary the rank of this word will be :
- a) 30 b) 31
 c) 32 d) None of these
2. Find the rank of word "LATE" :
- a) 15 b) 14
 c) 16 d) 17
3. Find the rank of word "MOTHER" :
- a) 308 b) 309
 c) 310 d) 311
4. Find the rank of word "FATHER" :
- a) 261 b) 263
 c) 260 d) 259
5. Find the rank of word "PARKAR" :
- a) 99 b) 100
 c) 101 d) 102
6. Find the rank of word "FLAME" :
- a) 60 b) 62
 c) 64 d) 63

Type 4

1. Find the number of divisor 22680 :
- a) 80 b) 81
 c) 79 d) 82
2. Find the number of divisor 120 :
- a) 13 b) 14
 c) 16 d) 17
3. Find the number of divisor 72 :
- a) 12 b) 13
 c) 14 d) 15
4. How many numbers can be formed with the digit 1, 2, 3, 4, 3, 2, 1 so that odd digits always occupy the odd places?
- a) 18 b) 16
 c) 20 d) 21
5. How many four digit number can be formed by using the digit 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 with no digit repeated?
- a) 4536 b) 3604
 c) 3354 d) 5554
6. How many six digits numbers can be formed

with the digits 9, 5, 3, 1, 7, 0?

- a) 600 b) 720
 c) 120 d) None of these
7. How many numbers between 1000 and 10000 can be formed with 1, 2, 3, 4, 5, 6, 7, 8, 9?
- a) 3024 b) 60
 c) 78 d) None of these
8. How many four digits number can be formed by using 1, 2, 3, 4, 5, 6 and 7 which a greater than 3400?
- a) 500 b) 550
 c) 560 d) None of these
9. The number of numbers consisting of six digits that can be formed with the digits 3, 1, 7, 0, 5, 9 is :
- a) 600 b) 120
 c) 610 d) None of these
10. The number of 2-digit numbers that can be fomred from the digits 0, 1, 3, 4, 5, 6 assuming repetation of digits is not allowed is :
- a) 30 b) 360
 c) 120 d) 25
11. How many 3-digit numbers are there with no digit repeated?
- a) 729 b) 648
 c) 720 d) none
12. How many 4-digit numbers can be formed with no digit repeated by using the digits 3, 4, 5, 6, 7, 8 and 0 ?
- a) 280 b) 720
 c) 840 d) 660
13. How many 10-digit numbers can be formed by using digits 1 and 2?
- a) 10! b) ${}^{10}C_2$
 c) ${}^{10}P_2$ d) 2^{10}
14. The number of positive integers greater than 6000 and less than 7000 which are divisible by 5, with no digit repeated is :
- a) 28 b) 56
 c) 112 d) 84

Type 5

1. A family of 4 brothers and 3 sisters is to be arranged for a photograph in one row. In how many ways can they be seated if no two sisters sit together?
- a) 720 b) 5040
 c) 1440 d) None of these
2. There are 12 men and 9 women. In how many ways can they stand in a row so that no two women are together?
- a) $12! {}^{13}P_9$ b) $12! \times 9!$
 c) $12! {}^{11}C_4$ d) None of these
3. The number of ways can 4 men, 3 boys, 2 women be seated in a row so that the men, the boys and the women are not separated is:
- a) 1728 b) 1278
 c) 288 d) 2718

4. In how many ways can 6 boys and 6 girls be seated around a table so that no 2 boys at adjacent?
a) $4! \times 5!$ b) $5! \times 6!$
c) 6P_6 d) $5 \times {}^6P_6$
5. In how many ways 4 men and 3 women are arranged at a round table if the women always sit together?
a) $6 \times 6!$ b) $4! \times 3!$
c) $7!$ d) None of these
6. In how many ways 7 men and 6 women sit at a round table so that no two women at together?
a) $5! \div 2$ b) $5!$
c) $6! \times {}^7P_6$ d) $7!$
7. The number of ways in which 10 mathematics papers be arranged so that the best and to worst may not be together is :
a) $8 \cdot 9$ b) $9 \cdot 10$
c) 9 d) $2 \cdot 8$
8. In how many ways can 7 gentlemen and 4 ladies be seated round a table so that no ladies sit together is :
a) 6×3 b) $7 \times {}^6P_4$
c) $6 \times {}^7P_4$ d) None of these
9. A round table conference is to be held between 20 delegates of 20 countries. The number of ways in which they can be seated if two particular delegates are always to sit together is :
a) $18 \cdot 2$ b) 19
c) $19/2$ d) None of these
10. In how many ways can 6 gentlemen and 4 ladies be seated round a table?
a) 9 b) $5 \cdot 4$
c) $5 \cdot 3$ d) $5 \times {}^6P_4$
11. A polygon has 54 diagonals. Number of sides of this polygon is :
a) 12 b) 15
c) 16 d) 9
12. A person hosts a dinner to 10 guests. They have to be seated around a circular table which can accommodate 6 and another straight table which can accommodate 4. The number of ways of arranging the guests is :
a) ${}^{10}P_6 \times {}^4P_4 \times 5 \times 3$
b) ${}^{10}P_6 \times {}^4P_4 \times 5 \times 4$
c) ${}^{10}C_6 \times {}^4C_4 \times 5 \times 3$ d) ${}^{10}C_6 \times 4 \times 5$
13. The number of ways in which 6 gents and 5 ladies can dine at a round table if no two ladies are to sit together is :
a) 30 b) $6! \times 5!$
c) $5! \times 4!$ d) None of these
14. In how many ways can 8 students be arranged in a row?
a) $8!$ b) $7!$
c) 8 d) $2 \times 7!$
15. In how many ways can 8 student be seated in a circle?
a) $8!$ b) $7!$
c) 8 d) $2 \times 7!$
16. The number of ways in which 6 different beads can be arranged to form a necklace is:
a) 50 b) 60
c) 40 d) 70
17. In how many ways can a party of 4 men and 4 women be seated at a circular table, so that no two woman are adjacent?
a) 164 b) 174
c) 144 d) 154
18. Find the number of ways in which n things, of which r are alike, can be arranged in a circular order :
a) $(n - 1)!$ b) $(n - 1)!/r!$
c) $(r - 1)!$ d) None of these
19. In how many ways 7 person be arranged at a round table so that 2 particular persons may be together?
a) 240 b) 360
c) 280 d) 230
20. The number of ways in which 8 men be arranged round a table so that 2 particular men may not be next to each other is :
a) 1440 b) 5040
c) 3630 d) 3600
21. The principal wants to arrange 5 students on a platform, such that the boy Salim occupies the second position and such that the girl Rita is next to him. How many such arrangement are possible?
a) 12 b) 14
c) 16 d) 18
22. The number of ways in which n books can be arranged on a shelf, so that two particular books shall not together is :
a) $(n - 2) \times (n - 1)!$ b) $(n + 1)!$
c) $n!$ d) $(n + 2)!$
23. A man 5 friends. In how many can he invite one or more of his friends to dinner?
a) 31 b) 30
c) 32 d) 41
24. A letter lock has three rings each marked with 10 different letters. In how many ways it is possible to make an unsuccessful attempt to open the lock?
a) 999 b) 899
c) 799 d) 1001
25. In how many ways can five things be divided between two persons?
a) 32 b) 36
c) 39 d) 42
26. Six seats of articulated clerks are vacant in a 'Chartered Accountant Firm'. How many different batches of candidates can be chosen out of ten candidates?
a) 216 b) 210
c) 220 d) none of these
27. How many different words can be formed with the letters of the word HARYANA?
a) 240 b) 360

- c) 840 d) 640
28. How many different words can be formed by using all the letters of the word "ALLAHABAD".
a) $9!/(4! \times 2!)$ b) $9!/4!$
c) $9!$ d) None of these
29. The letters of the words CALCUTTA and AMERICA are arranged in all possible ways. The ratio of the number of arrangement is :
a) 1 : 2 b) 2 : 1
c) 2 : 2 d) None of these
30. How many arrangements can be made out of the letters of the word 'PERMUTATION'?
a) $\frac{1}{2} \times {}^{11}P_{11}$ b) ${}^{11}P_{11}$
c) ${}^{11}C_{11}$ d) None of these
31. The number of ways the letters of the word COMPUTER can be arranged is :
a) 40320 b) 40340
c) 40318 d) none of these
32. The number of ways the letters of the word 'TRIANGLE' to be arranged so that the word 'ANGLE' will be always present is :
a) 20 b) 60
c) 24 d) 32
33. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?
a) 1050 b) 330
c) 25200 d) 6300
34. The number of diagonals that can be drawn by joining the angular points of a heptagon is :
a) 21 b) 14
c) 7 d) 28
35. The number of ways in which 52 playing cards be placed in 4 heaps of 13 cards each is :
a) $\frac{52!}{4! \times (13!)^4}$ b) $\frac{52!}{(13!)^4}$
c) $\frac{52!}{39!}$ d) None of these
36. The number of diagonals in a decagon is :
a) 30 b) 35
c) 45 d) None of these
37. In how many ways can 18 different books be divided equally among 3 students?
a) $18!/6!$ b) $18!/(6!)^3$
c) $18!/3(6!)^3$ d) None of these
38. The total number of sitting arrangements of 7 persons in a row if one person occupies the middle seat is :
a) $5!$ b) $6!$
c) $2! \times 6!$ d) None of these
39. In how many ways can 4 boys and 3 girls stand in a row so that no two girls are together?
a) $5! \times 4! \div 2!$ b) ${}^5P_3 \times 3$
c) ${}^5P_3 \times 2$ d) None
40. There are 3 Letters and 3 addressed envelopes corresponding to them. The number of ways in which the letter be placed in the envelopes so that no letter is in the right envelope is :
a) 5 b) 3
c) 1 d) 2
41. The number of ways in which 8 examination papers be arranged so that the best and worst papers never come together is :
a) $8! - 2 \times 7!$ b) $8! - 7!$
c) $8!$ d) None of these
42. The total number of sitting arrangement of 7 persons in a row if 3 persons sit together in a particular order is :
a) $5!$ b) $6!$
c) $2! \times 5!$ d) None of these
43. The number of ways in which the letters of the word HOSTEL can be arranged so that the vowels may not be separated is :
a) 240 b) 720
c) 120 d) None of these
44. The total number of sitting arrangement of 7 persons in a row if 3 persons sit together in any order is :
a) $5!$ b) $6!$
c) $2! \times 5!$ d) None of these
45. If there are 50 stations on a railway line how many different kinds of single first class tickets may be printed to enable a passenger to travel from one station to other?
a) 2500 b) 2450
c) 2400 d) None of these
46. In how many ways 5 Sanskrit, 3 English and 3 Hindi books be arranged keeping the books of the same language together?
a) $5! \times 3! \times 3! \times 3!$ b) $5! \times 3! \times 3!$
c) 5P_3 d) None of these
47. In how many ways can 5 people occupy 8 vacant chairs?
a) 5720 b) 6720
c) 7720 d) None of these
48. A dealer provides you Maruti Car and Van in 2 body patterns and 5 different colours. How many choices are open to you?
a) 2 b) 7
c) 20 d) 10
49. How many numbers greater than a million can be formed with the digit : One 0, Two 1, One 3 and three 7?
a) 360 b) 240
c) 840 d) 20
50. In how many ways can 4 Americans and 4 English men be seated at a round table so that no two Americans may be together?
a) $4! \times 3!$ b) 4P_4
c) $3 \times {}^4P_4$ d) 4C_4
51. There are 4 routes for going from Dumdum to Sealdah and 5 route for going from Seald;

