

SET 1

1. The value of the expression $C_4^{47} + \sum_{j=1}^5 C_3^{52-j}$
 - (a) C_4^{52}
 - (b) C_4^{52}
 - (c) C_4^{52}
 - (d) none of these
2. A five digit number divisible by 3 is to be formed using the numerals 0,1,2,3,4 and 5 without repetition. The total number of ways in which this can be done is
 - (a) 216
 - (b) 240
 - (c) 600
 - (d) 3125
3. Eight chairs are numbered 1 to 8. Two women and three men wish to occupy one chair each. First the women choose the chairs from amongst the chairs 1 to 4 and then the men select from the remaining chairs. The number of possible arrangements is
 - (a) $C_3^6 \times C_2^4$
 - (b) $C_2^4 \times P_3^4$
 - (c) $P_2^4 \times P_3^6$
 - (d) none of these
4. The number of ways in which a mixed double game can be arranged amongst 9 married couples if no husband and wife play in the same game is
 - (a) 756
 - (b) 1512
 - (c) 3024
 - (d) none of these

5. Number of words that can be made by arranging the letters of the word ARRANGE so that the word begin with A but do not end with E is
- (a) 300
 - (b) 360
 - (c) 420
 - (d) none of these
6. Number of words that can be made by arranging the letters of the word ROORKEE that neither begin with R nor end with E is
- (a) 270
 - (b) 330
 - (c) 510
 - (d) none of these
7. The number of arrangements of the letter of the word BANANA in which the two N's do not appear adjacently is
- (a) 40
 - (b) 60
 - (c) 80
 - (d) 36
8. Number of ways in which candidates $C_1, C_2, C_3, \dots, C_8$ can be ranked such that C_1 is always above C_8 is
- (a) 5040
 - (b) 3360
 - (c) 720
 - (d) 20160
9. If the number of ways of selecting K cards out of unlimited number of cards bearing the number 0,9,3 so that they cant be used to write the number 903 is 93, then K is equal to
- (a) 3

- (b) 4
(c) 5
(d) 6
10. Number of divisors of the form $4n+2$ ($n \geq 0$) of the integer 240 is
(a) 4
(b) 8
(c) 10
(d) 3
11. A student is allowed to select at most n books from a collection of $(2n+1)$ books. If the total number of ways in which he can select at least one book is 255, then n is
(a) 3
(b) 4
(c) 5
(d) 8
12. How many different nine digit number can be formed from the digits of the number 223355888 by rearrangement of the digits so that the odd digits occupy even places
(a) 16
(b) 36
(c) 60
(d) 180
13. The value of $2^n[1.3.5....(2n-3)(2n-1)]$ is
(a) $\frac{(2n)!}{n!}$
(b) $\frac{(2n)!}{2^n}$
(c) $\frac{(n)!}{2n!}$
(d) none of these

14. Total number of four digit odd numbers that can be formed using 0,1,2,3,5,7 (using repetition allowed) are
- (a) 216
 - (b) 375
 - (c) 400
 - (d) 720
15. Number greater than 1000 but less than 4000 is formed using the digits 0,1,2,3,4 (repetition allowed) . Their number is
- (a) 125
 - (b) 105
 - (c) 375
 - (d) 625
16. Five digit number divisible by 3 is formed using 0,1,2,3,4,6 and 7 without repetition . Total number of such numbers are
- (a) 312
 - (b) 3125
 - (c) 120
 - (d) 216
17. The sum of integers 1 to 100 that are divisible by 2 or 5 is
- (a) 3000
 - (b) 3050
 - (c) 3600
 - (d) 3250
18. If nC_r denotes the number of combination of n things taken r at a time, then the expression ${}^nC_{r+1} + {}^nC_{r-1} + 2 \times {}^nC_r$ equals
- (a) ${}^{n+1}C_{r+1}$
 - (b) ${}^{n+2}C_r$

(c) ${}^{n+2}C_{r+2}$

(d) ${}^{n+1}C_r$

ANSWERS - SET 1

1. a

2. a

3. c

4. b

5. a

6. b

7. a

8. d

9. c

10. a

11. b

12. c

13. a

14. d

15. c

16. d

17. b

18. b