PERMUTATION AND COMBINATION

1. How many numbers of 3 digits can be formed with the digits 1,2,3,4,5(repetation of digits not allowed)?
(a) 125 (b) 120 (c) 60 (d) 150

2. How many numbers between 2000 and 3000 can be formed with the digits 0,1,2,3,4,5,6,7 (repetation of digits not allowed)?
(a) 420 (b) 210 (c) 336 (d)440

3. A captain and vice-captain are to be chosen out of a team having 11 players. How many ways are there to achieve this?
(a) 10× 9 (b) ${}^{10}C_3$ (c) 110 (d) 10.9!

4. How many numbers between 200 and 1200 can be formed with the digits 0,1,2,3 (repetetion of digits not allowed)?
(a) 6 (b) 8 (c) 2 (d) 14

5. How many words can be formed out of the letters of the word 'EDUCATION' such that vowels is occupy the odd positions?
(a) 1440 (b) 2880 (c) 2840 (d) 2480

6. How many numbers of four digits, divisible by 5, can be formed with the digit 0,3,5,7 and 9(Repetetion of digits not allowed)?
(a) 120 (b) 90 (c) 42 (d) 30

7. how many words can be formed out of the letters of the word ' DEALING'?
(a) 5040 (b) 720 (c) 10080 (d) 1440

8. In how many ways can the letters of the word ' EXCELLENT' be arranged?
(a) 30024 (b) 34200 (c) 30420 (d) 30240

9. How many words of 4 letters beginning with 'A' or 'E' can be formed with the letters of the word 'EQUATOR'?
(a) 280 (b)160 (c) 240 (d) 180

10. The number of arrangements of the letters in the word FAILURE, so that vowels are always coming together is:
(a) 576 (b)570 (c) 575 (d) None of these

11. n articles are arranged in such a way that 2 particular articles never come together. The number of such arrangements is:
(a) (n-2) n! (b) (n-1) n-2! (c) n! (d) none of these

12. If 12 school teams are participating in a quiz contest, then the number of ways the first, second and third positions may be won:
(a) 1230 (b) 1320 (c) 3210 (d) None of these

13. The sum of all 4 digit number containing the digits 2,4,6,8 without repetitions is:

(a) 133330 (b) 122220 (c) 213330 (d) 133320

14. 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

15. If the letters word DAUGHTER are to be arranged so that vowels occupy the odd places, then number of different words are:
(a) 2880 (b) 8280 (c) 720 (d) 1240

16. The number of ways in which 7 boys sit a round table so that 2 particular boys must sit together is:
(a) 240 (b) 200 (c) 120 (d) 720

17. 3 ladies and 3 gents can be seated at a round table so that any two and only two of the ladies sit together. The number of ways is:
(a) 70 (b) 72 (c) 27 (d) 63

18. The number of arrangements in which the letters of the word MONDAY be arranged so that the words thus formed begin with M and do not end with N is;
(a) 720 (b) 120 (c) 96 (d) 240

19. The number of ways in which the letters of the word MOBILE be arranged so that consonants always occupy the odd places is;
(a) 36 (b) 63 (c) 30 (d) 72

20. How many different words can formed from the letters of the word CALCULUS?
(a) 720 (d) 10080 (c) 15120 (d) 5040

22. A person has 5 friends. In how many ways he can invite his friends that atleast one of them invited for dinner?
(a) 30 (b) 31 (c) 120 (d) 60

23. There are 7 men and 3 women. Find the number of ways in which a committee of 6 can be formed of them if the committee is to include atleast two women?
(a) 120 (b) 140 (c) 144 (d) 256

24. If ${}^{n}P_{r} = 336$ and ${}^{n}C_{r} = 56$, then n and r will be
(a) 3,2 (b) 8,3 (c) 7,4 (d) 8,2

25. If ${}^{18}C_{r}$= ${}^{18}C_{r+2}$, then the value of ${}^{r}C_{5}$ =?
(a) 55 (b) 50 (c) 56 (d) 48

27. If ${}^{n}C_{10} = {}^{n}C_{14}$, then ${}^{25}C_{n}$ =?
(a) 24 (b) 25 (c) 1 (d) 300

29. Every two persons shakes hands with each other in a party and the total number of hand shakes is 66. The number of guests in the party is:
(a) 11 (b) 12 (c) 13 (d) 14

30. A candidate is required to answer 6 out of 12 questions which are divided into two groups containing 6 questions in each group. He is not permitted to attempt not more than four from any group. The number of choices are:

(a) 750 (b) 850 (c) 800 (d) None of these