ASSIGNMENT

CLASS XI PERMUTATION AND COMBINATION

Q1. If ${}^{n}C_{r}+{}^{n}C_{r+1}={}^{n+1}C_{x}, \; then \; x=$

(a) r (b) r-1(c) n (d) r+1

Q2 There are 12 points in plane. The number of the straight lines joining any two of them when 3 of them are collinear, is

(a) 62 (b) 63(c) 64 (d) 65

Q3. There are 10 points in a plane and 4 of them are collinear. The number of straight lines joining any two of them is

(a) 45 (b) 40(c) 39 (d) 38

Q4. If $C_0 + C_1 + C_2 + ...C_n = 256, \; then \; {}^{2n}C_2$ is equal to

(a) 56 (b) 120(c) 28 (d) 91

Q5 The number of diagonals that can be drawn by joining the vertices of an octagon is

(a) 20 (b) 28(c) 8 (d) 16

Q6 The term without x in the expansion of $\left(2x-\frac{1}{2x^2}\right)^{12} is$

(a) 495 (b) -495(c) -7920 (d) 7920

Q7 If in the expansion of $(1+y)^n$, the coefficients of 5^{th}, 6^{th} and 7^{th} terms are in A.P then n is equal to

(a) 7, 11 (b) 7,14(c) 8,16 (d) None of these

Q8 The coefficient of $x^4 in\left(\frac{x}{2}-\frac{3}{x^2}\right)^{10} is$

(a) $\frac{405}{256}$ (b) $\frac{504}{259}$ (c) $\frac{450}{263}$ (d) None of these

Q9 if r^{th} term is the middle term in the expansion of $\left(x^2-\frac{1}{2x}\right)^{20}$, $then\ (r+3)^{th}$ term is

(a) $^{20}C_{14}\left(\frac{x}{2^{14}}\right)$ (b) $^{20}C_{12}x^2 2^{-12}$ (c) $-^{20}C_7 x.2^{-13}$ (d)None of these

Q10 In n A.M.'s are introduced between 3 and 17 such that the ratio of the last mean to the first mean is 3:1, then the value of n is

(a) 6 (b) 8(c) 4 (d) None of these

Q11 92. How many 8's are there between 1 to 1000?

(a) 301 (b) 300
(c) 299 (d) 350

Q12. How many numbers lying between 100 and 1000 can be formed with the digits 0, 1, 2, 3, 4, 5, if the repetition of the digits is not allowed ?

(a) 90 (b) 50
(c) 40 (d) 100

Q13. The number of ways youcan find to pack 9 different books into five parcels if four of the parcels must contain two books each, is

(a) 945 (b) $^9C_2\times^7C_2\times^5C_2\times^3C_2$
(c) $^9C_2\times^7C_2\times^5C_2\times^3C_2\times 5!$ (d) None of these

Q14 The number of permutations of letters a,b,c,d,e,f,g so that neither the pattern beg nor cad appears is

(a) $\frac{7!}{3!3!}$ (b) $\frac{7!}{2!3!3!}$
(c) 4806 (d) None of these

Q15 If eleven members of a committee sit at a round table so that the President and Secretary always sit together, then the number of arrangements is

(a) 10! x 2 (b) 10!
(c) 9! x 2 (d) 11! x 2!

Q16 In how many ways can 5 boys and 5 girls sit in a circle so that no two boys sit together?

(a) 5! X 5! (b) 4! X 5!
(c) $\frac{5!\times 5!}{2}$ (d) $\frac{(4!)\times(4!)}{2!}$

Q17 The number of arrangements that can be made taking 4 letters, at a time, out of the letters of the word PASSPORT is

(a) 606 (b) 626
(c) 666 (d) 686

Q18 The number of natural numbers smaller then 10^4 of which all the digits are distinct are

(a) 5000 (b) 5200
(c) 5300 (d) 5274

Q19 92. How many 8's are there between 1 to 1000?

(a) 301 (b) 300
(c) 299 (d) 350

Q20 How many numbers lying between 100 and 1000 can be formed with the digits 0, 1, 2, 3, 4, 5, if the repetition of the digits is not allowed ?

(a) 90 (b) 50
(c) 40 (d) 100

Q21 The number of ways youcan find to pack 9 different books into five parcels if four of the parcels must contain two books each, is

(a) 945 (b) ${}^9C_2 \times {}^7C_2 \times {}^5C_2 \times {}^3C_2$
(c) ${}^9C_2 \times {}^7C_2 \times {}^5C_2 \times {}^3C_2 \times 5!$ (d) None of these

Q22 The number of permutations of letters a, b, c, d, e, f, g so that neither the pattern beg nor cad appears is

(a) $\frac{7!}{3!3!}$ (b) $\frac{7!}{2!3!3!}$
(c) 4806 (d) None of these

Q23 If eleven members of a committee sit at a round table so that the President and Secretary always sit together, then the number of arrangements is

(a) 10! x 2 (b) 10!
(c) 9! x 2 (d) 11! x 2!

Q24 In how many ways can 5 boys and 5 girls sit in a circle so that no two boys sit together?

(a) 5! X 5! (b) 4! X 5!
(c) $\frac{5! \times 5!}{2}$ (d) $\frac{(4!) \times (4!)}{2!}$

Q25 The number of arrangements that can be made taking 4 letters, at a time, out othe letters of the word PASSPORT is

(a) 606 (b) 626
(c) 666 (d) 686

Q26 The number of natural numbers smaller then 10^4 of which all the digits are distinct are

(a) 5000 (b) 5200
(c) 5300 (d) 5274