

## MULTIPLE CHOICE QUESTIONS (MCQ'S)

1. Number of ways in which we can select a set of 6 books from 9 different books are \_\_\_\_\_ ways.  
 (a) 94                      (b) 97                      (c) 84                      (d) 50
2. If C denotes combination and P denotes permutation then if  $nC_{(4,2)} = P(4,2)$  then value of  $n =$  \_\_\_\_\_.  
 (a) 3                      (b) 2                      (c) 4                      (d) 0
3. The value of  $\frac{(n+1)!}{(n-1)!}$  is \_\_\_\_\_.  
 (a)  $n(n+1)$     (b)  $(n+1)!$     (c)  $n(n+1)!$     (d)  $\frac{(n+1)}{(n-1)}$
4. The value of  ${}^8C_3$  is \_\_\_\_\_.  
 (a) 120                      (b) 65                      (c) 200                      (d) 56
5. If  $n$  is 30 the value of  $\frac{(n+1)!}{(n-1)!}$  is \_\_\_\_\_.  
 (a) 390                      (b) 930                      (c) 309                      (d) 903
6. If  ${}^nP_2 = 20$  then value of  $n$  is \_\_\_\_\_.  
 (a) 5                      (b) 16                      (c) -30                      (d) 30
7. If  ${}^{2n}C_3 = 220$  then value of  $n$  is \_\_\_\_\_.  
 (a) 36                      (b) 3                      (c) 12                      (d) 0
8.  $0! =$  \_\_\_\_\_.  
 (a) 1                      (b) 0  
 (c) -1                      (d) None of these
9. In how many ways  $r$  different objects can be arranged out of  $n$  different objects.  
 (a)  $n!(n-1)!$                       (b)  $\frac{n!}{(n-r)!}$   
 (c)  $\frac{n!}{r!(n-r)!}$                       (d) None of these
10. If  $r = n$  then  ${}^nP_n =$  \_\_\_\_\_.  
 (a)  $n!$                       (b)  $0!$   
 (c)  $(n-1)!$                       (d) None of these
11. In factorial form  $n(n-1)(n-2) \dots 3.2.1 =$  \_\_\_\_\_.  
 (a)  $(n-3)!$                       (b)  $n!$   
 (c)  $\frac{n!}{(n-3)!}$                       (d) None of these

12. If "n" is a negative integer then  $n!$  = \_\_\_\_\_.  
 (a) Zero (b)  $\infty$   
 (c) Does not exist (d) None of these
13.  ${}^nC_r \times r!$  = \_\_\_\_\_.  
 (a)  ${}^nC_r$  (b)  $(n-1)!$  (c)  $r = n$  (d)  ${}^nP_r$
14. If  $r = n$  then  ${}^nC_r$  = \_\_\_\_\_.  
 (a) -1 (b)  $n!$  (c) 0 (d) 1
15. If  $r = 0$  then  ${}^nC_r$  = \_\_\_\_\_.  
 (a)  $0!$  (b) 1 (c)  $n!$  (d) -1
16.  ${}^nC_r$  = \_\_\_\_\_.  
 (a)  ${}^nC_{n-r}$  (b)  ${}^nC_{n+r}$   
 (c)  ${}^nC_{r-1}$  (d) None of these
17.  ${}^{n-1}C_r + {}^{n-1}C_{r-1}$  = \_\_\_\_\_.  
 (a)  ${}^nC_{r+1}$  (b)  ${}^nC_r$  (c) 0 (d) 1
18.  $1!$  = \_\_\_\_\_.  
 (a) 1 (b) 0  
 (c) -1 (d) None of these
19. The \_\_\_\_\_ is used to denote the number of elements in the Set A.  
 (a) A (b)  $O(A)$  (c)  $A(O)$  (d)  $O \times A$
20. If  $A = \{a, b, c, d\}$  then  $O(A)$  = \_\_\_\_\_.  
 (a) b (b) d (c) 4 (d) a
21. According to \_\_\_\_\_ for the Union of any two Sets if A and B are two Sets then  $O(A \cup B) = O(A) + O(B) - O(A \cap B)$ .  
 (a) Sum principle (b) product principle  
 (c) Minus principle (d) permutation
22. If A and B are two Sets then  $O(A \cup B) = O(A) + O(B)$ , this is known as sum principle for \_\_\_\_\_ Sets.  
 (a) Equal (b) Disjoint  
 (c) Equivalent (d) Overlapping
23. The method of finding the number of elements in a Set is known as \_\_\_\_\_.  
 (a) Dividing (b) Subtracting  
 (c) Counting (d) Multiplying
24. If  $A = \{0, 1, 2, 3\}$ ,  $B = \{2, 3, 4\}$  then  $O(A \cup B)$  = \_\_\_\_\_.  
 (a) 5 (b) 7 (c) 1 (d) 12
25. If  $A = \{1, 2, 3, 4, 5\}$ ;  $B = \{2, 4, 5, 7\}$  then  $O(A \cap B)$  = \_\_\_\_\_.  
 (a) 9 (b) 3 (c) 20 (d) 1

26. If  $A = \{0, 1, 2, 3\}$ ;  $C = \{4, 5, 6, 7, 8\}$  then  $O(A) + O(C)$  = \_\_\_\_\_.  
 (a) 20 (b) 5 (c) 9 (d) 4
27.  $\binom{n}{1}$  = \_\_\_\_\_.  
 (a) 1 (b)  $n-1$  (c) n (d)  $1+n$
28.  $\binom{n}{0}$  = \_\_\_\_\_.  
 (a) 0 (b) 1 (c) n (d)  $n-1$
29.  $\binom{n}{n-r} = (\dots\dots\dots)$   
 (a)  $\binom{n}{r}$  (b)  $\binom{r}{n}$  (c)  $\binom{n-r}{r}$  (d)  $\binom{r}{n-r}$
30.  $\binom{n}{n}$   
 (a) n (b)  $n^2$  (c)  $n!$  (d) 1
31. The number of circular permutations of n elements taken all at a time is \_\_\_\_\_.  
 (a)  $(n-1)!$  (b)  $(n+1)!$  (c)  $(1-n)!$  (d)  $\frac{1}{(n-1)!}$
32. The number of Circular permutations of n elements taken all at a time (When Clockwise and Anticlockwise arrangements are distinct) will be \_\_\_\_\_.  
 (a)  $2[(n-1)!]$  (b)  $\frac{1}{2}[(n-1)!]$   
 (c)  $\frac{1}{2}[(n+1)!]$  (d)  $\frac{1}{2}[(1-n)!]$
33. The number of distinct permutations of n things taken all at a time, when r of them are alike of one kind, s of them are alike of another kind, t of them are alike of third kind and the rest are different is \_\_\_\_\_.  
 (a)  $\frac{r!n!}{s!t!}$  (b)  $\frac{n!}{r!s!t!}$  (c)  $\frac{r!s!t!}{n!}$  (d)  $\frac{s!t!}{r!n!}$
34. The number of permutations of 10 balls at a time when 3 are black, 4 are red and 2 are white \_\_\_\_\_.  
 (a) 12006 (b) 60010 (c) 12600 (d) 61200

35.  ${}^nP_0 =$  \_\_\_\_\_  
 (a) 0 (b) 1 (c) n (d)  $\frac{1}{n}$
36. The product of first n natural numbers is called \_\_\_\_\_  
 (a) permutation (b) Combination  
 (c) factorial (d) None of these
37. The total number of different arrangement is called \_\_\_\_\_  
 (a) permutation (b) Circular permutation  
 (c) Group permutation (d) None of these
38.  ${}^nP_n =$  \_\_\_\_\_  
 (a) n! (b)  $\frac{1}{n!}$  (c) 1 (d) 0
39.  ${}^nP_1 =$  \_\_\_\_\_  
 (a) n! (b) n (c) 1 (d) 0
40. The total number of all possible selections is called \_\_\_\_\_  
 (a) Permutation (b) Combination  
 (c) Group permutation (d) None of these
41. If  ${}^nP_3 = 12 \cdot {}^nP_2$  then find n = \_\_\_\_\_  
 (a) 20 (b) 2 (c) 3 (d) 10
42. According to pascal's Rule  $\binom{n}{r-1} + \binom{n}{r} =$  \_\_\_\_\_  
 (a)  $\binom{n+1}{r}$  (b)  $\binom{n}{r+1}$   
 (c)  $\binom{n-1}{r}$  (d) None of these
43. If  ${}^nC_3 = 220$  then find n = \_\_\_\_\_  
 (a) 10 (b) 11 (c) 12 (d) 15
44. If  ${}^nP_4 = 24 \cdot {}^nC_3$  then find n = \_\_\_\_\_  
 (a) 8 (b) 9 (c) 10 (d) 11
45. If  ${}^{18}C_{18-r} = {}^{18}C_{r-2}$  then r = \_\_\_\_\_  
 (a) 11 (b) 10 (c) 9 (d) 8
46. How many natural numbers of 4 digits can be formed with digits 2, 3, 5, 7 (no digit being used more than once in each number).  
 (a) 18 (b) 42 (c) 24 (d) 81

47. How many natural numbers of 4 digits can be formed with the digits 2, 3, 5, 0 (no digit being used more than once in each number)  
 (a) 24 (b) 18 (c) 42 (d) 81
48. How many natural numbers each having 3 different digits can be formed with the digits 0, 2, 3, 5, 8, 9 if (none of the digits is repeated).  
 (a) 100 (b) 180 (c) 10 (d) 18
49. How many different words can be formed from the letters of the word "DAUGHTER".  
 (a) 6! (b) 7! (c) 8! (d) 9!
50. How many different words can be formed from the letters of the word "THATTA".  
 (a) 60 (b) 30 (c) 20 (d) 10
51. Find the number of ways in which 8 differently coloured flowers can be arranged in a row.  
 (a) 7! (b) 8! (c) 6! (d)  $\frac{7!}{2}$
52. Find the number of ways in which 8 differently coloured flowers can be arranged in a circle.  
 (a) 7! (b) 8! (c) 6! (d)  $\frac{7!}{2}$
53. Find the number of ways in which 8 differently coloured flowers can be formed into a necklace.  
 (a) 7! (b) 8! (c) 6! (d)  $\frac{7!}{2}$
54. In a class there are 8 boys and 5 girls. Two class representative are to be chosen. In how many ways they can be selected if the first is to be a boy and the second any of the boy or girl?  
 (a) 78 (b) 40 (c) 96 (d) 87
55. How many triangles are determined by 12 points in a plane if the points are used as vertices and if 7 of the points lie in the same straight line?  
 (a) 78 (b) 40 (c) 202 (d) 185
56. 8 Cricket teams play friendly matches each having to play against every one of the rest. How many matches have to be played in all?  
 (a) 4 (b) 8 (c) 16 (d) 28

57. In how many ways can the 12 given things be divided into 3 bundles of 2, 4 and 6 things.
- (a)  $\frac{12!}{2! 4! 6!}$  (b)  $\frac{12!}{(4!)^3}$   
 (c)  $\frac{12!}{3! (4!)^3}$  (d) None of these
58. Find the number of ways in which 12 books can be divided equally among three books seller.
- (a)  $\frac{12!}{(4!)^3}$  (b)  $\frac{12!}{3! (4!)^3}$   
 (c)  $\frac{12!}{2! 4! 6!}$  (d) None of these
59. Three equal packets are to formed from the given 12 books in how many ways this can be done?
- (a)  $\frac{12!}{(4!)^3}$  (b)  $\frac{12!}{2! 4! 6!}$   
 (c)  $\frac{12!}{3! (4!)^3}$  (d) None of these
60. If A and B are any two Sets and  $A \times B$  is their Cartesian product then  $O(A \times B) =$  \_\_\_\_\_.
- (a)  $O(A) + O(B)$  (b)  $O(A) - O(B)$   
 (c)  $O(A) / O(B)$  (d)  $O(A) \times O(B)$
61. If  $A = \{a, b, c, d\}$ ;  $B = \{c, d, e\}$  and  $C = \{e, f, g, h, k\}$  then  $O(A \cup (B \cap C)) =$  \_\_\_\_\_.
- (a) 4 (b) 5 (c) 6 (d) 7
62. If  $A = \{1, 2, 3, 4\}$ ,  $B = \{3, 4, 5\}$ ,  $C = \{5, 6, 7, 8, 9\}$  then  $O(A \cup (B \times C)) =$  \_\_\_\_\_.
- (a) 17 (b) 18 (c) 19 (d) 20
63. How many different arrangement can be made by using all the letters of the word EQUATION.
- (a) 40320 (b) 43200 (c) 34200 (d) 24300
64. 4 Persons enter a first Class railway compartment in which there are 6 Seats in how many ways can they take their Seats \_\_\_\_\_.
- (a) 300 (b) 630 (c) 720 (d) 360
65. A gentleman has 6 spare rooms for guests. In how many ways can be accomodate 3 guests each in a separate room \_\_\_\_\_.
- (a) 240 (b) 120 (c) 360 (d) 720

66. 4 Students arrive at hyderabad where there are 6 Colleges. In how many ways can they join the colleges, each at a different College \_\_\_\_\_.
- (a) 10 (b) 12 (c) 24 (d) 360
67. The number of groups permutations of  $n$  - objects of which  $n_1$  are alike  $n_2$  are alike  $n_k$  are alike is given by \_\_\_\_\_.
- (a)  $\frac{n!}{n_1! n_2! \dots n_k!}$  (b)  $\frac{n!}{(n_1 + n_2 + \dots + n_k)}$   
 (c)  $\frac{(n_1 + n_2 + \dots + n_k)}{n!}$  (d)  $\frac{n_1! n_2! \dots n_k!}{n!}$
68. Find the number of permutations of the letters of word INSTITUTION all taken together.
- (a) 3326400 (b) 3346200 (c) 3346200 (d) 3342600
69.  $n$  - different elements formed into a necklace is \_\_\_\_\_.
- (a)  $(n + 1)!$  (b)  $n!$  (c)  $(n - 1)!$  (d)  $\frac{(n - 1)!}{2}$
70. The number of Circular permutations of 4 beads arranged in a circle.
- (a) 3 (b) 4 (c) 5 (d) 6
71. The number of Circular permutations of 4 beads arranged to form a necklace is \_\_\_\_\_.
- (a) 3 (b) 4 (c) 5 (d) 6
72. Find the number of Combinations of the letter of the word SEMINAR taken 4 at a time is \_\_\_\_\_.
- (a) 4 (b) 7 (c) 35 (d) 53
73. In how many ways can a cricket eleven choose a captain, a vice captain and a wicket keeper from amongst themselves?
- (a) 3 (b) 99 (c) 90 (d) 990
74. There are 6 - True false questions on a test. In how many different ways can 6 questions can be answered?
- (a) 6 (b) 36 (c) 8 (d) 64
75. Find the number of permutations of the letter of the word MISSISSIPPI?
- (a) 138600 (b) 318600 (c) 813600 (d) 613800
76. The number of ways of partitioning a Set consisting of  $(r + s)$  elements into pairs of two disjoint subsets such that one subset consist of  $r$  - elements and the other of  $s$  - elements is \_\_\_\_\_.
- (a)  $\frac{(r + s)!}{r! s!}$  (b)  $\frac{r! s!}{(r + s)!}$  (c)  $\frac{(r + s)!}{(r - s)!}$  (d)  $\frac{r! s!}{(s - r)!}$

77. The number of ways of partitioning a set consisting of  $(r_1 + r_2 + r_3)$  elements into 3 mutually disjoint subsets such that one subset consists of  $r_1$  - elements,  $r_2$  - elements and  $r_3$  - elements is \_\_\_\_\_.
- (a)  $\frac{(r_1 + r_2 + r_3)!}{r_1! r_2! r_3!}$  (b)  $\frac{r_1! r_2! r_3!}{(r_1 + r_2 + r_3)!}$   
 (c)  $\frac{(r_1 + r_2 + r_3)!}{(r_1 + r_2 + r_3)!}$  (d) None of these
78. The number of ways of partitioning a Set consisting of  $(r_1 + r_2 + r_3 + \dots + r_n)$  elements into  $n$  - mutually equally subsets such that one subsets consists of  $r_1$  elements others  $r_2$  elements  $r_3$  elements,  $r_n$  elements is \_\_\_\_\_.
- (a)  $\frac{(nr)!}{n! (r!)^n}$  (b)  $\frac{n! (r!)^n}{(nr)!}$  (c)  $\frac{n! (nr)!}{(r!)^n}$  (d)  $\frac{n! (nr)!}{(r!)^n}$
79.  $\binom{n}{0} + \binom{n}{n} =$  \_\_\_\_\_.
- (a)  $\binom{n+1}{n}$  (b)  $\binom{2n}{n}$  (c) 1 (d) 2
80. Habib has 3 books and Taha has 2 books. In how many ways can they exchange a book.
- (a) 5 (b) 1 (c) -5 (d) 6
81. If two coins are tossed together then the sample space is \_\_\_\_\_.
- (a) { (H,H), (H,T), (T,H), (T,T) }  
 (b) { (H,H), (T,T), (H,H), (H,T) }  
 (c) { (H,H,H), (H,H,T), (H,T,H), (T,H,H) }  
 (d) None of these
82. The Sample Space for tossing three coins once is \_\_\_\_\_.
- (a) { (H,H,H), (H,H,T), (H,T,H), (T,H,H), (T,T,H), (T,H,T), (H,T,T), (T,T,T) }  
 (b) { (H,H,H), (H,H,T), (H,T,H), (T,H,H), (T,T,H), (T,H,T) }  
 (c) { (H,H,H), (T,T,T), (H,H,T), (T,T,H), (H,T,H) }  
 (d) None of these
83. The process by which an observation is made is called a/an \_\_\_\_\_.
- (a) outcome (b) Experiment  
 (c) Sample point (d) Sample Space

84. The result of an experiment are called \_\_\_\_\_.
- (a) Experiment (b) Outcome  
 (c) Sample point (d) Sample Space
85. Every possible outcomes, no two of which may be out comes at the same time, is called \_\_\_\_\_.
- (a) An experiment (b) Outcome  
 (c) Sample point (d) Sample Space
86. A Set of all Sample points or outcomes of an experiment is called \_\_\_\_\_.
- (a) Event (b) Sample Space  
 (c) An experiment (d) None of these
87. \_\_\_\_\_ has become a science that predicts the chance of success or failure of an untold number of occurrences.
- (a) permutation (b) combination  
 (c) Trigonometry (d) Probability
88. Any Subset of a Sample Space is called a/an \_\_\_\_\_.
- (a) Event (b) outcome  
 (c) Trial (d) Sample Space
89. A Subset of a Sample Space having no elements at all is called a \_\_\_\_\_.
- (a) Event  
 (b) Null Space or Empty Space  
 (c) Out come (d) Sample point
90. A Single toss of a coin is called a/an \_\_\_\_\_.
- (a) Outcome (b) Sample Space  
 (c) Experiment/Trial (d) Event
91. In a Single toss of a Coin head or Tail are known as \_\_\_\_\_.
- (a) Experiment (b) Event  
 (c) Sample point (d) Outcome
92. In a Single toss of a Coin the Set  $S = \{ \text{Head, Tail} \}$  is called \_\_\_\_\_.
- (a) Sample Space (b) Experiment  
 (c) Event (d) Outcome
93. All the Subsets of the Sample Space are called \_\_\_\_\_.
- (a) Outcome (b) Event  
 (c) Experiment (d) Sample point
94. Each Singleton Set consisting of only one or no sample point is a/an \_\_\_\_\_.
- (a) Experiment (b) Outcome  
 (c) Event (d) Sample space

95. Two events are said to be \_\_\_\_\_ if they cannot occur simultaneously in a Single outcome.  
 (a) Exhaustive Event (b) Favourable Event  
 (c) Sample Event  
 (d) Mutually exclusive or incompatible
96. If one of the events excludes the occurrence of the other event in an outcome then they are said to be \_\_\_\_\_.  
 (a) Mutually exclusive (b) Exhaustive Event  
 (c) Sample Event (d) Favourable Event
97. In a Single toss of a Coin the event  $A = \{ \text{Head} \}$  and  $B = \{ \text{Tail} \}$  are \_\_\_\_\_.  
 (a) Favourable Events  
 (b) Mutually Exclusive Event  
 (c) Exhaustive Events (d) Sample Events
98. The possible outcomes when an experiment is performed are called \_\_\_\_\_.  
 (a) Mutually exclusive Events (b) Favourable Events  
 (c) Exhaustive Events (d) Compound Events
99. If A and B are two Events of a Sample Space S then A and B are said to be \_\_\_\_\_ if  $A \cup B = S$   
 (a) Compound Events (b) Equally likely Events  
 (c) Favourable Events (d) Exhaustive Events
100. Outcomes of an experiment or a trial are said to be \_\_\_\_\_ if taking into consideration all the relevant evidences.  
 (a) Equally likely events (b) Favourable Events  
 (c) Simple Event (d) Compound Event
101. The number of outcomes which ensure the occurrence of an event are called \_\_\_\_\_.  
 (a) Compound Event (b) Favourable Event  
 (c) Simple Event (d) Exhaustive Event
102. If an event is a set containing only one element of the sample space i.e Singleton set then it is called a \_\_\_\_\_.  
 (a) Compound Event (b) Equally likely Event  
 (c) Favourable Event  
 (d) Simple/Elementary Event
103. The event of drawing a spade from a deck of 52 playing cards is an example of \_\_\_\_\_.  
 (a) Favourable Event (b) Simple Event  
 (c) Compound Event  
 (d) Mutually Exclusive Event

104. A \_\_\_\_\_ is one that can be expressed as the union of Simple Events.  
 (a) Simple Event (b) Exhaustive Events  
 (c) Compound Event (d) Favourable Event
105. The Event  $B = A$  Set of drawing a Black Card it is a/an \_\_\_\_\_.  
 (a) Exhaustive Event (b) Simple Event  
 (c) Simple Event (d) Compound Event
106. If A is an event and  $A \subseteq S$  the Sample Space, then  $A'$  the complement of A in S is called \_\_\_\_\_.  
 (a) Complementary Events (b) Compound Events  
 (c) Favourable Events (d) Exhaustive Events
107. The events A and  $A'$  are called \_\_\_\_\_ events.  
 (a) Supplementary (b) Exhaustive  
 (c) Complementary (d) Favourable
108.  $P(A) + P(A') =$  \_\_\_\_\_.  
 (a) 1 (b) -1 (c) 2 (d) -2
109.  $P(A') = 1 -$  \_\_\_\_\_.  
 (a)  $P(A')$  (b)  $P(A)$   
 (c)  $P(B)$  (d) None of these
110. For an Event A, the range of its probability is \_\_\_\_\_.  
 (a)  $-1 \leq P(A) \leq 1$  (b)  $0 < P(A) < 1$   
 (c)  $0 \leq P(A) \leq 1$  (d)  $0 < P(A) \leq 1$
111. If A and B are mutually exclusive events, then  $P(A \cup B) =$  \_\_\_\_\_.  
 (a)  $P(A \cap B)$  (b)  $P(A) + P(B)$   
 (c)  $P(A) - P(B)$  (d)  $P(AB)$
112. If A and B are not mutually exclusive events then  $P(A \cup B) =$  \_\_\_\_\_.  
 (a)  $P(A) + P(B) - P(A \cap B)$  (b)  $P(A) + P(B)$   
 (c)  $P(A) + P(B) + P(A \cap B)$  (d)  $P(A) - P(B)$
113. For two overlapping events  $P(A \cup B) = P(A) + P(B) -$  \_\_\_\_\_.  
 (a)  $P(A \cup B)$  (b)  $P(A \cap B)$   
 (c)  $P(A/B)$  (d) None of these
114. For two mutually exclusive events A and B \_\_\_\_\_.  
 (a)  $A \cup B = \phi$  (b)  $A \cap B = \phi$   
 (c)  $A \cup B = A \cap B$  (d) None of these

115.  $P(A) = \frac{O(A)}{\dots}$   
 (a)  $P(A')$  (b)  $1 - P(A)$   
 (c)  $O(S)$  (d)  $1 + P(A)$
116. The probability can never be a \_\_\_\_\_.  
 (a) negative number (b) positive number  
 (c) Zero (d) None of these
117. The numerical measure of uncertain Statement is, infact Called \_\_\_\_\_.  
 (a) permutation (b) ways  
 (c) probability (d) None of these
118. If a die is rolled once then the number of elements of Sample Space is \_\_\_\_\_.  
 (a) 36 (b) 6  
 (c) 1 (d) None of these
119. If a die is rolled twice, then number of elements of Sample Space is \_\_\_\_\_.  
 (a) 36 (b) 6 (c) 1 (d) 0
120. If "S" be a Sample Space then probability of "S" i.e.  $P(S)$  = \_\_\_\_\_.  
 (a) 0 (b) 1 (c)  $> 1$  (d)  $< 1$
121. If a Coin is tossed n times then the number of outcomes will be \_\_\_\_\_.  
 (a)  $2^{n-1}$  (b)  $2^{n+1}$   
 (c)  $2^n$  (d) None of these
122. In general, if the die is thrown n times, then the Sample Space will contain \_\_\_\_\_.  
 (a)  $6^n$  points (b)  $n^6$  points  
 (c)  $2^n$  points (d) None of these
123. If A and A' are Complementary events in a Sample Space S, then  $P(A \cup A') =$  \_\_\_\_\_.  
 (a)  $P(S)$  or 1 (b)  $P(S)$  or -1  
 (c)  $P(S)$  or Zero (d) None of these
124.  $P(\phi) =$  \_\_\_\_\_.  
 (a) Zero (b) 1 (c) -1 (d)  $\pm 1$
125.  $P(\phi \cup \phi) =$  \_\_\_\_\_.  
 (a) Zero (b) 1 (c) -1 (d)  $\pm 1$
126.  $P(\phi') =$  \_\_\_\_\_.  
 (a) Zero (b) 1 (c) -1 (d)  $\pm 1$

Chapter 7 # Permutations and Combinations

127. If  $A \subset B \subset S$  then \_\_\_\_\_ (in generally)  
 (a)  $P(A) \leq P(B)$  (b)  $P(A) < P(B)$   
 (c)  $P(A) \geq P(B)$  (d)  $P(A) = P(B)$
128. If  $A \subset S, B \subset S, A \cap B = \phi$  then  $P(S \cap (A \cup B)) =$  \_\_\_\_\_.  
 (a) 1 (b) Zero  
 (c)  $P(A) + P(B)$  (d)  $P(A) - P(B)$
129. If  $P(A) = 0$  then \_\_\_\_\_.  
 (a)  $A \subset S$  (b)  $A = \phi$  (c)  $A \cap S = S$  (d)  $A = S$
130. If  $P(A) = 1$  then \_\_\_\_\_.  
 (a)  $A = S$  (b)  $A = \phi$  (c)  $A \subset S$  (d)  $A \cap S = \phi$
131. The probability to get an odd number in a dice thrown once is \_\_\_\_\_.  
 (a)  $\frac{1}{6}$  (b)  $\frac{1}{2}$  (c) 2 (d) 6
132. A die is rolled, what is the probability of getting a number which is even and greater than 2?  
 (a)  $\frac{1}{2}$  (b)  $\frac{1}{3}$   
 (c)  $\frac{1}{6}$  (d) None of these
133. If A and B are disjoint events, then  $P(A \cup B) =$  \_\_\_\_\_.  
 (a)  $P(A) + P(B)$  (b)  $P(A) + P(B) - P(A \cap B)$   
 (c)  $P(A) + P(B) - P(A \cup B)$  (d)  $P(A) - P(B)$
134. There are 5 green and 3 red balls in a box. One ball is taken out the probability that the ball drawn is yellow is:  
 (a)  $\frac{5}{8}$  (b)  $\frac{3}{8}$  (c) 1 (d) Zero
135. The probability of getting the head in a single toss of a coin is \_\_\_\_\_.  
 (a)  $\frac{1}{2}$  (b)  $\frac{1}{3}$  (c) 2 (d) 3
136. Two coins are tossed together once. Find the probability getting atleast one head is \_\_\_\_\_.  
 (a)  $\frac{1}{4}$  (b)  $\frac{1}{3}$  (c)  $\frac{3}{4}$  (d)  $\frac{4}{3}$
137. A coin is tossed twice. Find the probability of getting both heads.  
 (a)  $\frac{1}{4}$  (b)  $\frac{1}{2}$  (c)  $\frac{3}{4}$  (d) 1

138. If three coins are tossed simultaneously. What is the probability of Obtaining atleast one tail?  
 (a)  $\frac{7}{8}$  (b)  $\frac{5}{8}$  (c)  $\frac{3}{8}$  (d)  $\frac{1}{8}$
139. In a Simultaneous toss of two coins, find the probability of 2 tails.  
 (a)  $\frac{1}{2}$  (b)  $\frac{1}{4}$  (c)  $\frac{3}{4}$  (d)  $\frac{1}{4}$
140. In a Simultaneous toss of two coins, find the probability of getting exactly 1 tail?  
 (a)  $\frac{3}{4}$  (b)  $\frac{1}{4}$  (c)  $\frac{1}{3}$  (d)  $\frac{1}{2}$
141. In a Simultaneous toss of two coins find the probability of no tail.  
 (a)  $\frac{3}{4}$  (b)  $\frac{1}{2}$  (c)  $\frac{1}{4}$  (d) 0
142. Three coins are tossed. Find the probability of getting all heads.  
 (a)  $\frac{1}{6}$  (b)  $\frac{1}{8}$  (c)  $\frac{1}{4}$  (d)  $\frac{3}{4}$
143. Three coins are tossed find the probability of exactly 2 heads.  
 (a)  $\frac{3}{8}$  (b)  $\frac{1}{2}$  (c)  $\frac{1}{8}$  (d)  $\frac{3}{4}$
144. Three coins are tossed find the probability of atleast 2 heads.  
 (a)  $\frac{1}{2}$  (b)  $\frac{3}{8}$  (c)  $\frac{1}{8}$  (d)  $\frac{1}{4}$
145. Three coins are tossed find the probability of atleast 2 heads.  
 (a)  $\frac{3}{8}$  (b)  $\frac{1}{2}$  (c)  $\frac{7}{8}$  (d)  $\frac{1}{4}$
146. Three coins are tossed find the probability of no head.  
 (a)  $\frac{3}{8}$  (b)  $\frac{1}{8}$  (c)  $\frac{1}{2}$  (d)  $\frac{1}{4}$
147. A coin is tossed three times. Find the chance that head and tail occur alternately.  
 (a)  $\frac{3}{8}$  (b) 1 (c)  $\frac{1}{8}$  (d)  $\frac{3}{4}$

148. A coin is tossed twice find the probability of atleast one tails.  
 (a)  $\frac{1}{2}$  (b)  $\frac{3}{4}$  (c)  $\frac{1}{4}$  (d) 1
149. A coin is tossed twice. Find the probability of getting both tails.  
 (a)  $\frac{1}{2}$  (b)  $\frac{3}{4}$  (c)  $\frac{1}{4}$  (d) 1
150. A coin is tossed twice. Find the probability of getting both tail.  
 (a)  $\frac{1}{2}$  (b)  $\frac{3}{4}$  (c)  $\frac{1}{4}$  (d) 1
151. A coin is tossed twice find the probability of Exactly one tails.  
 (a)  $\frac{1}{2}$  (b)  $\frac{3}{4}$  (c)  $\frac{1}{4}$  (d) 1
152. A coin is tossed twice find the probability of no head.  
 (a)  $\frac{3}{4}$  (b)  $\frac{1}{4}$  (c)  $\frac{1}{2}$  (d) 1
153. A coin is tossed twice find the probability of no tail.  
 (a)  $\frac{3}{4}$  (b)  $\frac{1}{4}$  (c)  $\frac{1}{2}$  (d) 1
154. A coin is tossed twice find the probability of no head and no tail.  
 (a)  $\frac{3}{4}$  (b)  $\frac{1}{4}$  (c)  $\frac{1}{2}$  (d) 0
155. A coins is tossed twice find the probability of all heads.  
 (a)  $\frac{3}{4}$  (b)  $\frac{1}{4}$  (c)  $\frac{1}{2}$  (d) 1
156. A coin is tossed twice find the probability of the same faces.  
 (a)  $\frac{3}{4}$  (b)  $\frac{1}{4}$  (c)  $\frac{1}{2}$  (d) 1
157. If  $P(A \cup B) = \frac{1}{5}$  then  $P[(A \cup B)'] =$  \_\_\_\_\_  
 (a)  $\frac{1}{5}$  (b)  $\frac{2}{5}$  (c)  $\frac{4}{5}$  (d) 1



158. A coin is tossed once what is the probability of getting tail.  
(a)  $\frac{1}{2}$  (b) 1 (c) 0 (d)  $\frac{1}{3}$
159. In a Single throw of two dice, find the probability of getting a total of 12?  
(a)  $\frac{1}{36}$  (b)  $\frac{1}{9}$  (c)  $\frac{1}{18}$  (d)  $\frac{35}{36}$
160. In a Single throw of two dice find the probability of getting a total of 11?  
(a)  $\frac{1}{9}$  (b)  $\frac{1}{18}$  (c)  $\frac{1}{12}$  (d)  $\frac{35}{36}$
161. A die is rolled once, find the probability of getting a number  $\geq 5$ .  
(a)  $\frac{1}{6}$  (b)  $\frac{1}{3}$  (c)  $\frac{2}{3}$  (d)  $\frac{5}{6}$
162. If a die is rolled twice, what is the probability that the sum of points is 13?  
(a)  $\frac{1}{6}$  (b)  $\frac{1}{36}$  (c)  $\frac{1}{3}$  (d) 0
163. A die is rolled once find the probability of getting a number 3.  
(a)  $\frac{3}{5}$  (b)  $\frac{1}{2}$  (c)  $\frac{1}{6}$  (d)  $\frac{1}{3}$
164. A die is rolled once find the probability of getting a number 6.  
(a)  $\frac{3}{5}$  (b)  $\frac{1}{2}$  (c)  $\frac{1}{6}$  (d) 1
165. A die is rolled once find the probability of getting a number 5.  
(a)  $\frac{1}{6}$  (b)  $\frac{5}{6}$  (c)  $\frac{1}{2}$  (d) 1
166. A die is rolled once find the probability of getting a number  $> 1$ .  
(a)  $\frac{5}{6}$  (b)  $\frac{2}{3}$  (c)  $\frac{1}{6}$  (d)  $\frac{1}{2}$
167. A die is rolled once find the probability of getting a number  $> 3$ .  
(a)  $\frac{5}{6}$  (b)  $\frac{2}{3}$  (c)  $\frac{1}{2}$  (d)  $\frac{1}{3}$

168. A card is drawn an ordinary deck of playing cards what is the probability that it is a black queen?  
(a)  $\frac{1}{26}$  (b)  $\frac{1}{52}$  (c)  $\frac{1}{36}$  (d)  $\frac{5}{36}$
169. A card is drawn from a Well-Shuffled deck of 52 Cards. Find the probability of drawing a King?  
(a)  $\frac{1}{52}$  (b)  $\frac{1}{26}$  (c)  $\frac{1}{13}$  (d)  $\frac{1}{4}$
170. A card is drawn from a well-shuffled deck of 52 playing cards. Find the probability of drawing a queen?  
(a)  $\frac{1}{52}$  (b)  $\frac{1}{26}$  (c)  $\frac{1}{13}$  (d)  $\frac{1}{4}$
171. A card is drawn from a well-shuffled deck of 52 cards. Find the probability of drawing a Jack?  
(a)  $\frac{1}{52}$  (b)  $\frac{1}{13}$  (c)  $\frac{1}{26}$  (d)  $\frac{1}{4}$
172. A card is drawn from a well-shuffled deck of 52 Cards. Find the probability of drawing an ace.  
(a)  $\frac{1}{52}$  (b)  $\frac{1}{26}$  (c)  $\frac{1}{4}$  (d)  $\frac{1}{13}$
173. A card is drawn from a well - shuffled deck of 52 Cards. Find the probability of drawing a Black Card.  
(a)  $\frac{1}{52}$  (b)  $\frac{1}{26}$  (c)  $\frac{1}{13}$  (d)  $\frac{1}{2}$
174. A card is drawn from a well-shuffled deck of 52 Cards. Find the probability of drawing a diamond.  
(a)  $\frac{1}{2}$  (b)  $\frac{1}{4}$  (c)  $\frac{3}{13}$  (d)  $\frac{1}{26}$
175. A card is drawn from a well-shuffled deck of 52 cards. Find the probability of drawing a face card?  
(a)  $\frac{1}{2}$  (b)  $\frac{1}{13}$  (c)  $\frac{1}{26}$  (d)  $\frac{3}{13}$
176. A card is drawn from a well Shuffled deck of 52 cards. Find the probability of drawing a card which is neither a spade nor a King?

- (a)  $\frac{6}{5}$  (b)  $\frac{5}{6}$  (c)  $\frac{1}{2}$  (d)  $\frac{9}{13}$

177. A card is drawn from a deck of 52 playing cards. Find the probability of getting spade or ace or Red Card.

- (a)  $\frac{9}{13}$  (b)  $\frac{4}{13}$  (c)  $\frac{10}{13}$  (d)  $\frac{11}{13}$

178. What is the probability that one card drawn at random from the pack of playing cards may be either a queen or an ace?

- (a)  $\frac{1}{13}$  (b)  $\frac{2}{13}$  (c)  $\frac{3}{13}$  (d) 0

179. A bag contains a red, a yellow and a blue ball, what is the probability of picking a red ball?

- (a)  $\frac{2}{3}$  (b) 1 (c)  $\frac{1}{3}$  (d) 0

180. An integer is chosen between 1 and 10 both inclusive what is the probability that it is even integer.

- (a)  $\frac{1}{10}$  (b)  $\frac{1}{2}$  (c)  $\frac{2}{5}$  (d)  $\frac{1}{5}$

### Answers

1.	c	2.	b	3.	a	4.	d	5.	b
6.	a	7.	c	8.	a	9.	b	10.	a
11.	b	12.	c	13.	d	14.	d	15.	b
16.	a	17.	b	18.	a	19.	b	20.	c
21.	a	22.	b	23.	c	24.	a	25.	b
26.	c	27.	c	28.	b	29.	a	30.	d
31.	a	32.	b	33.	b	34.	c	35.	b
36.	c	37.	a	38.	a	39.	b	40.	b
41.	d	42.	a	43.	a	44.	b	45.	d
46.	c	47.	b	48.	a	49.	c	50.	a
51.	b	52.	a	53.	d	54.	c	55.	c
56.	d	57.	a	58.	a	59.	c	60.	d
61.	b	62.	c	63.	a	64.	d	65.	b
66.	d	67.	a	68.	a	69.	d	70.	d
71.	a	72.	c	73.	d	74.	d	75.	a

76.	a	77.	a	78.	a	79.	d	80.	d
81.	a	82.	a	83.	b	84.	b	85.	c
86.	b	87.	d	88.	a	89.	b	90.	c
91.	d	92.	a	93.	b	94.	c	95.	d
96.	a	97.	b	98.	c	99.	d	100.	a
101.	b	102.	d	103.	b	104.	c	105.	d
106.	a	107.	c	108.	a	109.	b	110.	c
111.	b	112.	a	113.	b	114.	b	115.	c
116.	a	117.	c	118.	b	119.	a	120.	b
121.	c	122.	a	123.	a	124.	a	125.	b
126.	b	127.	a	128.	c	129.	b	130.	a
131.	b	132.	b	133.	a	134.	d	135.	a
136.	c	137.	a	138.	a	139.	b	140.	d
141.	c	142.	b	143.	b	144.	a	145.	c
146.	b	147.	b	148.	b	149.	c	150.	a
151.	a	152.	b	153.	b	154.	d	155.	b
156.	c	157.	c	158.	a	159.	a	160.	b
161.	b	162.	d	163.	c	164.	c	165.	a
166.	a	167.	c	168.	a	169.	c	170.	c
171.	b	172.	d	173.	d	174.	b	175.	d
176.	d	177.	c	178.	b	179.	c	180.	b