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Chapter: 7

1) If n is +ve ______ then $\underline{|n} = n(n-1).(n-2)\ldots 3.2.1$

a- Rational Number b- Irrational Number c- Real number ✓d- Integer.

2) $\underline{|6}$ = ______.

a- 120 b- 620 ✓c- 720 d- 60

3) $\dfrac{\underline{|8}}{\underline{|6}}$ = ______.

✓a- 56 b- 8 c- 7 d- 16

4) $\dfrac{\underline{|n}}{\underline{|n-1}}$ = ______ if $n=1$.

✓a- 1 b- $-\infty$ c- $+\infty$ d- 0

5) ______ $= 6\times5\times4$

a- $\underline{|6}$ ✓b- $\dfrac{\underline{|6}}{\underline{|3}}$ c- $\dfrac{\underline{|6}}{\underline{|2}}$ d- $\dfrac{\underline{|6}}{\underline{|5}}$

6) $n(n-1)(n-2)\ldots(n-r+1)$ = ______.

a- $\underline{|n}$ b- $\underline{|n-r}$ ✓c- $\dfrac{\underline{|n}}{\underline{|n-r}}$ d- $\underline{|n-r+1}$

7) A triangle can be given ______ names.

a- 1 b- 2 c- 3 ✓d- 6

8) $\underline{|0} = 0! =$ ______. a- 0 ✓b- 1 c- -1 d- None

9) ^nP_r = ______ for $n \geq r$ and n, r are +ve integers.

✓a- $\dfrac{\underline{|n}}{\underline{|n-r}}$ b- $\dfrac{\underline{|n}}{\underline{|r}}$ c- $\dfrac{\underline{|n-r}}{\underline{|r}}$ d- $\underline{|n}\,\underline{|n-r}$

10) n different objects can be arranged taken all at a time in ______

a- $(n-1)!$ ways b- $(n+1)!$ ways ✓c- $n!$ ways d- n ways.

11) ^nP_r exist if ______ where n, r are +ve integer.

✓a- $n \geq r$ b- $n < r$ c- $n \leq r$ d- $n+r<0$

12) ^nP_n = ______. a- 1 b- 0 c- n ✓d- $n!$

13) $^{15}P_1$ = ______. a- 16 ✓b- 15 c- 30 d- None

14) $^5P_3$ = ______. a- 15 b- 5 ✓c- 60 d- 3

15) $^6P_4$ = ______. ✓a- 360 b- 20 c- 15 d- 16

16) $^{10}P_2$ = ______. a- 0 b- 20 ✓c- 90 d- 80

17) $^nP_2 = 30$ then $n=$ ______ a- 5 ✓b- 6 c- 4 d- 3

18) $^nP_r =$ ______ $^{n-1}P_{r-1}$. ✓a- n b- $n+1$ c- r d- $r-1$

19) No. of arrangements of PLANE are a- 5 ✓b- 120 c- 60 d- 90

20) How many Signals can be given by 5 flags when 3 used at a time?

a- 120 b- 90 c- 30 ✓d- 60

21). $^nC_r =$ ______ for n, r being +ve integers.
a- $\underline{|n}$ b- $\frac{\underline{|n}}{\underline{|n-r}}$ ✓c- $\frac{\underline{|n}}{\underline{|n-r}\,\underline{|r}}$ d- $\frac{\underline{|n}}{\underline{|n+r}}$

22). $^nC_r =$ ______ a- $^nC_{r-n}$ b- $^nC_1$ ✓c- $^nC_{n-r}$ d- ^nC_n

23). $^nC_n =$ ______ ✓a- 1 b- n c- $\underline{|n}$ d- 0

24). $^nC_0 =$ ______ a- 0 ✓b- 1 c- n d- $\underline{|n}$

25). $^nP_r =$ ______ a- $^nC_{n-r}$ b- ^nC_r c- $r\,{}^nC_r$ ✓d- $\underline{|r}\,{}^nC_r$

26). $^{12}C_{10} =$ ______ a- 60 ✓b- 66 c- 120 d- 6

27) $^nC_8 = {}^nC_{12}$ where $n =$ ___ ✓a- 20 b- 12 c- 8 d- 10

28) $^nC_r + {}^nC_{r-1} =$ ______ a- ^nC_r b- $^nC_{r-1}$ c- $^{n+1}C_{r-1}$ ✓d- $^{n+1}C_r$

29) No. of diagonals of n sided polygon are ______
a- ^nC_r b- $^nC_2$ c- $^nC_2 - r$ ✓d- $^nC_2 - n$

30) $^5C_2 =$ ______. a- 20 ✓b- 10 c- 15 d- 16

31) $^4C_4 =$ ______. a- 0 ✓b- 1 c- 4 d- $\underline{|4}$

32) ______ $= r!\,{}^nC_r$ ✓a- ^nP_r b- ^nC_r c- $^nP_{r-1}$ d- $^nP_{n-r}$

33). If $S = \{1,2,3,4\}$ and $A = \{1,2\}$ then $P(A) =$ ______.
a- 0 b- 1 ✓c- $\frac{1}{2}$ d- $\frac{1}{4}$

34) A and B are called Mutually Exclusive events if ______.
a- $A \cap B = S$ ✓b- $A \cap B = \emptyset$ c- $A \cup B = S$ d $A = B$.

35) $P(A)$ lies between ______ where $A \subseteq S$.
✓a- 0 and 1 b- 0 and 2 c- 1 and 2 d- 0 and 10

36) $P(\bar{A}) =$ ______ a- $P(A)$ b- $P(S)$ c- $P(A-S)$ ✓d- $1 - P(A)$

37). $P(A) =$ ___ where $A = \emptyset$ ✓a- 0 b- 1 c- $\frac{1}{2}$ d- $\frac{1}{4}$

38) Probability of Sure event is ___ a- 0 ✓b- 1 c- $\frac{1}{2}$ d- $\frac{1}{4}$

39) Probability of impossible event is ___ ✓a- 0 b- 1 c- $\frac{1}{2}$ d- $\frac{1}{4}$

40) ______ events have Probabilities.
a- Dependent b- Independent ✓c- Equally likely d- Mutually exaustive.

41) $P(A \cup B) =$ ______ where A and B are overlapping.
a- $P(A)$ b- $P(B)$ c- $P(A) + P(B)$ ✓d- $P(A) + P(B) - P(A \cap B)$.

42) If A and B are mutually exclusive then $P(A \cup B) =$ ______.
✓a- $P(A) + P(B)$ b- $P(A) + P(B) + P(A \cap B)$ c- $P(A) + P(B) - P(A \cap B)$ d- $P(A \cap B)$

43) $P(A \cap B) =$ ______ where A, B are independent events.
a- $P(A \cup B)$ b- $P(A) + P(B)$ ✓c- $P(A).P(B)$ d- $P(A) - P(B)$

44). Probabity of Sample Space is always ______.
a- 0 ✓b- 1 c- $\frac{1}{2}$ d- ∞

45) If $P(A)=0$ then A is called ______ event.
a- Sure ✓b- Impossible c- Fair d- Equally Likely

46) If $P(E)=1$ then E is called ______ event.
✓a- Sure b- Impossible c- Fair d- Equally Likely.

47) If A and B are ______ then $P(A\cap B) = P(A)\cdot P(B)$
a- Dependent ✓b- Independent c- Sure d- Impossible

48) $\frac{n!}{(n-2)!} =$ ______ a- n b- $n-1$ ✓c- $n(n-1)$ d- None

49) $\frac{(n+1)!}{(n-1)!} =$ ______ a- n b- $n+1$ c- $n(n-1)$ ✓d- $n(n+1)$

50) Probability of occuring 6 when dot is rolled is ______.
a- 0 ✓b- $1/6$ c- $1/3$ d- 1

Chapter: 8

1) $3+6+9+\dots+3n=$ ______.
a- $9n$ b- $\frac{n(n+1)}{2}$ ✓c- $\frac{3n(n+1)}{2}$ d- $\frac{3n+1}{3}$

2) ______ is an integer $\forall\ n\in N$.
a- $\frac{n^2+2n}{2}$ ✓b- $\frac{n^3+2n}{3}$ c- $\frac{2n+1}{2}$ d- $\frac{n+1}{3}$

3) There is no integer for which ____ is even.
a- 2^n ✓b- 3^n c- 4^n d- 6^n

4) $4^n > 3^n+4$ is true for ______.
a- $n<1$ ✓b- $n\geq 2$ c- $n\geq 1$ d- $n\leq 1$

5) n^2+n is divisible by ______.
✓a- 2 b- 3 c- 5 d- 7

6) 5^n-2^n is divisible by ______
a- 2 ✓b- 3 c- 4 d- 6

7) $n! > 2^n-1$ for ______.
a- $n\geq 3$ b- $n\geq 2$ c- $n<4$ ✓d- $n\geq 4$

8) $n! > n^2$ for ______.
a- $n\geq 2$ b- $n\geq 3$ c- $n<3$ ✓d- $n\geq 4$

9) $3^n < n!$ for ______.
a- $n>1$ b- $n>3$ c- $n>5$ ✓d- $n>6$

10) Index of $(a+b)^n$ is ______.
✓a- n b- $n+1$ c- a d- b