









## ECAT Mathematics Chapter 9 Permutation, Combination and Probability Online Test

Sr	Questions	Answers Choice
1	A sequence is a function whose domain is	A. N B. Subset of N C. R D. None of these
2	The domain of a finite sequence is a	A. Set of natural numbers B. R C. Subset of N D. Proper subset of N
3	The domain of an infinite sequence is a	A. Set of natural numbers B. R C. Subset of N D. None of the above
4	The sum if 1,3,5,7,9..... up to 20 terms is	A. 400 B. 472 C. 563 D. 264
5	The sum of all odd numbers between 100 and 200 is	A. 6200 B. 7500 C. 6500 D. 3750
6	The sum of all positive integral multiple of 5 less than 100 is	A. 950 B. 760 C. 1230 D. 875
7	The sum of all even numbers less than 100 is	A. 2450 B. 2352 C. 2272 D. 2468
8	Arithmetic mean between 14 and 18 is	A. 16 B. 17 C. 15 D. 32
9	How many terms of the A.P 3,6,9,12,15.....must be taken to make the sum 108	A. 8 B. 6 C. 7 D. 36
10	An event having more than one sample point is called	A. Certain event B. Compound event C. Simple event D. None
11	If A and B are two disjoint events then	A. $P(A \cup B) = P(A) + P(B)$ B. $P(A \cup B) = P(A) - P(A \cap B)$ C. $P(A \cup B) = P(A) \text{ or } P(B)$ D. None
12	$nC_{n-r}$ is equal to	A. $n!$ B. $n-1Cr$ C. $nCr$ D. None of these
13	The number of combinations of 10 different objects taken 8 objects at a time is	A. 90 B. 45 C. 55 D. 50
14	If S is a sample space and event set $E = S$ then $P(E)$ is	A. $\geq 0$ B. 1 C. $\leq 1$ D. 0
15	If S is a sample space and event set $E = \Phi$ then $P(E)$ is	A. $\geq 0$ B. 1 C. $\leq 1$ D. 0

16	The probability that a slip of numbers divisible by 4 is picked from the slips of number 1,2,3,4,.....10 is	A. 1/5 B. 2/5 C. 1/10 D. 3/10
17	Product of any n consecutive positive integers is divisible by	A. n B. $\sqrt{n}$ C. n! D. None
18	probability of a certain event is	A. 0 B. -1 C. 1 D. $\infty$
19	If A is an event then which of the following is true	A. $P(A) \leq 0$ B. $0 \leq P(A) \leq 1$ C. $P(A) \geq 0$ D. None
20	The number of permutation that can be formed from the letters of the word OBJECT is	A. 700 B. 600 C. 720 D. 620
21	A box contains 10 red 30 white and 20 black marbles When a marble is drawn at random the probability that it is either red or white is	A. 1/6 B. 1/3 C. 1/2 D. 2/3
22	The number of 5-digit number that can be formed from the digits 1,2,4,6,8, when 2 and 8 are never together is	A. 72 B. 48 C. 144 D. 20
23	Number of selections of n different things out of n	A. 1 B. nPr C. n! D. nPr
24	If for two events A and B , $P(A \cup B) = 1$ , then events A and B are	A. Certain events B. Mutually exclusive C. Complementary events D. Independent
25	How many different 5-digit even numbers are possible form digit 1,2,4,6,8	A. 4 : 4! B. 4! C. 5! D. 4!+4!
26	The factorial of a positive integers is a (an)	A. Rational number B. Positive integer C. Real number D. None
27	A key ring is an example of	A. Permutation B. Circular permutation C. Combination D. None
28	Probability of an impossible event is	A. 0 B. -1 C. 1 D. $\infty$
29	How many 6-Digit number can be formed without repeating any digit from the digits 0,1,2,3,4,5	A. 720 B. 600 C. 120 D. 6-5!
30	How many committees of 5 numbers can be chosen from a group of 8 players person when each committee must include 2 particular persons	A. 8! B. 5!3! C. 5! D. 20
31	Number of combination of zero or more things out of n different things	A. nPn B. nPr C. nCr D. 2n
32	Which one is not defined $\forall n \in \mathbb{Z}^+$	A. -n! B. n! C. (-n)! D. $n!+0!=n!+1$
33	In school there are 150 students Out of these 80 students enrolled for mathematics class 50 enrolled for English class and 60 enrolled for Physics class The student enrolled for English cannot attend any other class but the students of mathematics and Physics can	A. 40 B. 30 C. 20 D. 10

33	English cannot attend any other class but the students of mathematics and physics can take two courses at a time Find the number of students who have taken both physics and mathematics.	C. 50 D. 20
34	In a school there are 150 students Out of these 80 students enrolled for mathematics class.50 enrolled for English class and 60 enrolled for Physics class The student enrolled for English cannot attend any other class but the students of mathematics and Physics can take two courses at a time find the number of students who have taken both physics and mathematics.	A. 40 B. 30 C. 50 D. 60
35	In a country 55% of the male population has houses in cities while 30% have houses both in cities and in villages find the percentage of the population that has houses only in villages	A. 45 B. 30 C. 25 D. 50
36	If $n$ is a positive integer then $n!$ is	A. $(n - 1) (n - 2) \dots 3, 2, 1$ B. $n(n - 1) (n - 2) \dots 3, 2, 1$ C. $n(n - 1) (n - 2) \dots 3$ D. None of these
37	For a positive integer $n$	A. $n! = n(n + 1)$ B. $n! = n(n+1)!$ C. $n! = n(n - 1)$ D. $n! = n(n - 1)!$
38	$0! = \underline{\hspace{2cm}}$	A. 0 B. 1 C. 2 D. Not defined
39		A. 8 B. $1/56$ C. 56 D. None of these
40	$8 \cdot 7 \cdot 6 \cdot 5$ in factorial form is	
41	$6! = \underline{\hspace{2cm}}$	A. 360 B. 720 C. 6.5.4 D. None of these
42		A. 56 B. 7 C. 8 D. $8/7$
43	$n(n - 1) (n - 2)$ in factorial form is	
44	$(n + 2) (n + 1)n$ in factorial form is	
45		A. 3 B. 6 C. 0 D. None of these
46		
47		A. $n!$ B. $0!$ C. 1 D. None of these
48		A. 0 B. 20 C. 90 D. 80
49		A. 6 B. 360 C. 120 D. 24
50	$n$ different objects can be arranged taken all at a time in $\underline{\hspace{2cm}}$	A. $(n + 1)!$ ways B. $(n - 1)!$ ways C. $n!$ ways D. $n$ ways
51		A. 120 B. 5 C. 4 D. 6
52	Number of ways of writing the letters of WORD taken all at a time is	A. 24 B. 4 C. 12 D. 6

53	How many arrangements of the letters of the word MISSIPPI, taken all together can be made?	
54	In how many ways can 5 persons be seated at a round table	A. 5! B. 4! C. 3! D. 120
55	How many signals can be given by 5 flags of different colours, using 3 flags at a time	A. 120 B. 60 C. 24 D. 15
56	How many 3 digit numbers can be formed by using each one of the digit 2, 3, 5, 7, 9 only once?	A. 15 B. 24 C. 60 D. 120
57	How many necklaces can be made from 6 beads of different colours?	A. 120 B. 60 C. 24 D. 15
58	When a selection of object is made without paying regard to the order of selection, it is called	A. Sequence B. Series C. Combination D. Permutation
59	The number of permutations of n objects of which there are $n_1$ like of one kind, $n_2$ like of the second kind and $n_3$ like objects of third kind are	
60	Question Image	
61	The number of the diagonals of a 6 sided figure is	A. 15 B. 21 C. 9 D. 6
62	Question Image	
63	Question Image	A. 110 B. 220 C. 1320 D. None of these
64	Question Image	A. 5 B. 20 C. 9 D. 4
65	The sample space for tossing a coin once is	A. {T, T} B. {H, H} C. {H, T} D. None of these
66	The probability to get an odd number in a dice thrown once is	A. 6 B. 1 C. 1/6 D. 1/2
67	A dice is rolled. The probability that the dots on the top are greater than 4 is	A. 1/6 B. 1/3 C. 1/2 D. 1
68	The probability that a slip of number divisible by 4 is picked from the slips bearing numbers 1, 2, 3, ...10 is	A. 1/5 B. 1/4 C. 1/3 D. 1/2
69	Question Image	A. $P(A) + P(B)$ B. $P(A) - P(B)$ C. $P(A) \cdot P(B)$ D. $P(A) / P(B)$
70	The sample space for tossing a coin twice is	A. {H, T} B. {HH, HT, TH, TT} C. {H, T, HH} D. {HH, HT, TT}
71	The probability that a person A will be alive 15 years hence is 5/7 and the probability that another person B will be alive 15 years hence is 7/9. Find the probability that both will be alive 15 years hence	A. 4/63 B. 5/9 C. 45/49 D. None of these
72	Question Image	A. 0 B. -1 C. 1

		D. 2
73	If $n$ is a negative integer $n!$ is	A. 1 B. 0 C. Unique D. Not defined
74	$9 \cdot 8 \cdot 7 \cdot 6 =$ _____	
75	$(n + 2)(n + 1)n =$ _____	
76	Question Image	
77	Question Image	
78	$n(n - 1)(n - 2) \dots (n - r + 1) =$ _____	
79	Question Image	
80	$20 \cdot 19 \cdot 18 \cdot 17 =$ _____	
81	Question Image	A. 36 B. 360 C. 24 D. 6
82	The number of words that can be formed out of the letters of the word ASSASSINATION is	
83	How many arrangements of the letters of the word MATHEMATICS can be made	
84	How many arrangements of the letters of the word PAKISTAN can be made	
85	How many arrangements of the letters of the word PAKPATTAN can be made	
86	How many arrangements of the letters of the word ADDING can be made	
87	The probability to get an odd number in a dice thrown once is	A. $\frac{1}{2}$ B. $\frac{1}{6}$ C. $\frac{1}{3}$ D. 2
88	Question Image	
89	Question Image	
90	Question Image	A. 5 B. 10 C. 20 D. 30
91	Question Image	
92	Question Image	
93	Two balanced dice are tossed once, the sample space when the integers on the faces of two dice are the same is	A. $\{(1, 1), (2, 2), (3, 3)\}$ B. $\{(4, 4), (5, 5), (6, 6)\}$ C. $\{(1, 1), (2, 2), (3, 3), (4, 4), (5, 5), (6, 6)\}$ D. None of these
94	Three unbiased coins are tossed. Then the probabilities of getting two heads is	A. $\frac{3}{8}$ B. $\frac{1}{8}$ C. $\frac{1}{4}$ D. None of these
95	An unbiased die is thrown. Then the probability of getting a prime is	A. $\frac{1}{2}$ B. $\frac{2}{3}$ C. $\frac{3}{4}$ D. None of these
96	A coin is tossed. If head comes up, a die is thrown but if tail comes up, the coin is tossed again. The probability of obtaining a head and an even number is	A. $\frac{1}{8}$ B. $\frac{2}{8}$ C. $\frac{3}{8}$ D. None of these
97	A card is drawn from a pack of cards numbered 1 to 52, the probability that the number on the card is a perfect square is	A. $\frac{1}{13}$ B. $\frac{2}{13}$ C. $\frac{7}{52}$ D. None of these
98	A bag contains 3 white, 4 black and 2 red balls. If 2 balls are drawn at random, then the probability that both the balls are white is	A. $\frac{1}{18}$ B. $\frac{1}{12}$ C. $\frac{1}{36}$ D. None of these

99	Form a group of 5 men and 3 women, a committee of 4 persons is to be selected randomly. The probability that there is a majority of men is	B. 1/3 C. 1/2 D. 1/6
100	Six boys and 3 girls are to be seated at random, in a row, for a photograph. The probability that no two girls will sit together is	A. 1/12 B. 1/6 C. 5/12 D. 7/12
101	Four cards are drawn at random from a pack of 52 playing cards. The probability of getting all the four cards of the same suit is	A. 44/4165 B. 22/4165 C. 11/4165 D. None of these
102	5 unbiased coins are tossed simultaneously. The probability of getting at least one head is	A. 1 / 32 B. 31 / 32 C. 1 / 16 D. None of these
103	Two unbiased dice are thrown. The probability that the total score is > 5 is	A. 1 / 18 B. 7 / 18 C. 13 / 18 D. 11 / 18
104	Two cards are drawn at random from a well shuffled pack of cards. The probability that at least one of them is a face card is	A. 3 / 17 B. 5 / 17 C. 7 / 17 D. 9 / 17
105	Three dice are thrown together. The probability of getting a total of at least 6 is	A. 103 / 108 B. 10 / 216 C. 93 / 108 D. None of these
106	There are 25 tickets bearing number from 1 to 25. One ticket is drawn at random. The probability that the number on it is a multiple of 5 or 6 is	A. 7 / 25 B. 9 / 25 C. 11 / 25 D. None of these
107	In a class of 100 students, 60 drink tea, 50 drink coffee and 30 drink both. A student from his class is selected at takes at last one of 2 drinks is	A. 2 / 5 B. 3 / 5 C. 4 / 5 D. None of these
108	The value of n, when ${}^nP_2 = 20$ is	A. 3 B. 4 C. 6 D. 5
109	Riaz, Saba, Maria, Shehzad are to give speeches in a class. The teacher can arrange the order of their presentation in	A. 4 ways B. 12 ways C. 256 ways D. 24 ways
110	If $4 {}^6P_r = {}^6P_{r+1}$ , then r is equal to	A. 4 B. 3 C. 2 D. 1
111	All letters of the word "AGAIN" are permuted in all possible ways and the words so formed (with or without meaning) are written as in dictionary, then the 50th word is	A. NAAGI B. NAAIG C. IAANG D. INAGA
112	The number of significant numbers which can be formed by using any number of the digits 0, 1, 2, 3, 4 but using each not more than once in each number is	A. 260 B. 356 C. 410 D. 96
113	Number of permutations of n distinct objects taken $r (< n - 3)$ at a time which exclude 3 ( $< n$ ) particular objects is	A. $3! P(n, r - 3)$ B. $P(n, 3) P(n, r - 3)$ C. $P(r, r) P(n, r - 3)$ D. $P(n - 3, r)$
114	The number of ways of arranging the letter AAAAA BBB CCC D EE F in a row when no two C's are together is	
115	Fifteen girls compete in a race. The first three places can be taken by them in	A. 3! ways B. 12! ways C. 15 x 14 x 13 ways D. 42 ways
116	There are n seats round a table numbered 1, 2, 3 .... n. The number of ways in which m person can take seats is	A. ${}^{n-1}P_m$ B. ${}^{n-1}P_m \times (m - 1)!$ C. ${}^{n-1}P_m$ D. None of these









117	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 marked 1 to 4 and then the men select the chairs from amongst the remaining. The number of possible arrangement is	A. $\frac{6}{C_3} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2}$ B. $\frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2} \times \frac{4}{C_2}$ C. $\frac{4}{P_2} \times \frac{4}{P_2} \times \frac{4}{P_2} \times \frac{4}{P_2} \times \frac{4}{P_2} \times \frac{4}{P_2} \times \frac{4}{P_2} \times \frac{4}{P_2}$ D. None of these
118	An integer is chosen at random from the number ranging from 1 to 50. the probability that the integer chosen is a multiple of 2 or 3 or 10 is	A. $\frac{3}{10}$ B. $\frac{5}{10}$ C. $\frac{7}{10}$ D. $\frac{9}{10}$
119	Question Image	A. 0.9 B. 0.74 C. 0.2016 D. None of these
120	Question Image	A. 1.5 B. 1.2 C. 8 D. None of these
121	Question Image	
122	Question Image	A. $\frac{1}{2}$ B. $\frac{1}{3}$ C. $\frac{1}{4}$ D. None of these
123	A bag contains 7 whit, 5 black and 4 rd balls. If two balls are drawn at random from the bag, the probability that they are not of the same color is	A. $\frac{73}{120}$ B. $\frac{83}{120}$ C. $\frac{67}{120}$ D. $\frac{43}{120}$
124	Two cards are drawn at random without replacement. the probability that the first is a king and second is not a king is	A. $\frac{48}{663}$ B. $\frac{24}{663}$ C. $\frac{12}{663}$ D. None of these
125	A bag contains 5 white, 7 red and 5 black balls. If four balls are drawn one by one with replacement, the probability that none is white is	A. $(\frac{11}{16})^2$ B. $(\frac{5}{16})^2$ C. $(\frac{11}{16})^4$ D. $(\frac{5}{16})^4$
126	A committee consists of 9 experts taken from three institutions A, B, and C, of which 2 are from, A, 3 form B and 4 from C. If three experts resign, then the probability that they belong to different institutions is	A. $\frac{1}{729}$ B. $\frac{1}{24}$ C. $\frac{1}{21}$ D. $\frac{2}{7}$
127	Three numbers are chosen random without replacement from {1, 2, 3, ..., 10}. the probability that minimum of the chosen numbering is 3 or their maximum is 7	A. $\frac{7}{40}$ B. $\frac{5}{40}$ C. $\frac{11}{40}$ D. None of these
128	Out of 40 consecutive natural numbers, two are chosen at random. Probability that the sum of the numbers is odd, is	A. $\frac{14}{29}$ B. $\frac{20}{39}$ C. $\frac{1}{2}$ D. n
129	The probability of getting a number between 1 and 100 which is divisible by 1 and itself if only is	A. $\frac{1}{4}$ B. $\frac{1}{2}$ C. $\frac{3}{4}$ D. $\frac{25}{98}$
130	If two balls are drawn from a bag containing 3 white, 4 black and 5 red balls. Then the probability that the drawn balls are of different colours is	A. $\frac{1}{66}$ B. $\frac{3}{66}$ C. $\frac{19}{66}$ D. $\frac{47}{66}$
131	Five engineering, four mathematics, two chemistry books are placed on a table at random.The probability that the books of each kind are all together is	
132	The key for opening a door is in a bunch of 10 keys. A man attempts to open the door by trying the keys at random discarding the wrong key. The probability that the door is opened in the 5th trial is	A. $\frac{1}{10}$ B. $\frac{2}{10}$ C. $\frac{3}{10}$ D. $\frac{4}{10}$
133	A machine operates if all of its three components function. The probability that the first component fails during the year is 0.14, the second component fails is 0.10 and the third component fails is 0.05. the probability that the machine will fail during the year is	A. 0.2647 B. 0.2692 C. 0.3647 D. None of these
134	A combination lock on a suitcase has 3 wheels each labeled with nine digits from 1 to 9. If an opening combination is a particular sequence of three digits with no repeats, the probability of a person guessing the right combination is	A. $\frac{1}{500}$ B. $\frac{1}{504}$ C. $\frac{1}{252}$ D. $\frac{1}{250}$

135	Out of 10, 000 families with 4 children each, the number of families all of whose children are daughters is	<p>A. 375</p> <p>B. 500</p> <p>C. 625</p> <p>D. 150</p>
136	A card is drawn from a pack of cards numbered 2 to 53. the probability that the number on the card is prime number less than 20 is	<p>A. 2 / 13</p> <p>B. 4 / 13</p> <p>C. 5 / 13</p> <p>D. 8 / 13</p>
137	An experiment yields 3 mutually exclusive and exhaustive events A, B, C, if $P(A) = 2$ and $P(B) = 3$ . then $P(C) =$	<p>A. 1 / 11</p> <p>B. 2 / 11</p> <p>C. 3 / 11</p> <p>D. 6 / 11</p>
138	A box containing 10 mangoes out of which 4 are rotter. Two mangoes are taken together from the box. If one of them is found to be good, the probability that the other is also good is	<p>A. 1 / 3</p> <p>B. 8 / 15</p> <p>C. 5 / 13</p> <p>D. 5 / 9</p>
139	For two events A and B if $P(A) = P(A/B) = 1/4$ and $P(B/A) = 1/2$ , then	<p>A. A is sub-event of B</p> <p>B. A and B are mutually exclusive</p> <p>C. A and B are independent and <math>P(A/B) = 3/4</math></p> <p>D. None of these</p>
140	Given two independent event A and B such that $P(A) = 0.30$ and $P(B) = 0.60$ . Probability of getting neither A nor B is	<p>A. 0.28</p> <p>B. 0.13</p> <p>C. 0.12</p> <p>D. 0.42</p>
141	A and B throw a dice. The probability that A's throw is not greater then B's is	<p>A. 5 / 12</p> <p>B. 7 / 12</p> <p>C. 1 / 6</p> <p>D. 1 / 2</p>
142	A die is thrown 100 times. If getting an odd number is considered a success, the variance of the number of successes is	<p>A. 50</p> <p>B. 25</p> <p>C. 10</p> <p>D. 100</p>
143	Question Image	<p>A. 5 / 12</p> <p>B. 3 / 8</p> <p>C. 5 / 8</p> <p>D. 7 / 4</p>
144	Three integers are chosen at random from the first 20 integers. Then probability that their product is even, is	<p>A. 2 / 19</p> <p>B. 3 / 29</p> <p>C. 17 / 19</p> <p>D. 4 / 19</p>
145	Cycle tyres are supplied in lots of 10 and there is a chance if 1 in 500 tyres to be defective. Using Poisson distribution, the approximate number of lots containing no defective tyre in a consignment of 10, 0000 lots is	<p>A. 9028</p> <p>B. 9208</p> <p>C. 9802</p> <p>D. 9820</p>
146	There are 16 point in a plane, in which 6 are collinear. how many lines can be drawn by joining these points?	<p>A. 10</p> <p>B. 66</p> <p>C. 71</p> <p>D. 106</p>
147	What is the probability of being born on Wednesday?	<p>A. 1/7</p> <p>B. 1/2</p> <p>C. 1/3</p> <p>D. 1/8</p>
148	A class contains nine boys and three girls, in how many ways can the teacher choose a committee of four?	<p>A. 60</p> <p>B. 460</p> <p>C. 495</p> <p>D. 272</p>
149	A die is rolled. What is the probability that the dots on the top are greater than 4?	<p>A. 1/4</p> <p>B. 1/2</p> <p>C. 1/3</p> <p>D. 1/33</p>
150	A die is thrown, the probability that the dots on the top are prime numbers or odd numbers is	<p>A. 1/2</p> <p>B. 2/3</p> <p>C. 1/3</p> <p>D. 2/5</p>
151	The probability that the sum of dots appearing in two successive thrown of two dice, in every time 7 is	<p>A. 1/5</p> <p>B. 1/36</p> <p>C. 1/7</p> <p>D. 1/63</p>
152	Two coins are tossed twice each. The probability that the head appears on the first toss and the same forces appear in the two tosses is	<p>A. 1/4</p> <p>B. 1/2</p> <p>C. 1/3</p> <p>D. 1/7</p>



		D. $1/n$
153	$n!/((n-1)!) =$	A. $n$ B. $n!$ C. $(n-1)!$ D. $0!$
154	A sequence is a function whose domain is	A. $N$ B. Subset of $N$ C. $R$ D. None of these
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170	Product of any n consecutive positive integers is divisible by	<div>...</div> <div>C. <math>n!</math></div> <div>D. None</div>
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172	If A is an event then which of the following is true	<div>A. <math>P(A) \leq 0</math></div> <div>B. <math>0 \leq P(A) \leq 1</math></div> <div>C. <math>P(A) \geq 0</math></div> <div>D. None</div>
173	The number of permutation that can be formed from the letters of the word OBJECT is	<div>A. 700</div> <div>B. 600</div> <div>C. 720</div> <div>D. 620</div>
174	A box contains 10 red 30 white and 20 black marbles When a marble is drawn at random the probability that it is either red or white is	<div>A. <math>\frac{1}{6}</math></div> <div>B. <math>\frac{1}{3}</math></div> <div>C. <math>\frac{1}{2}</math></div> <div>D. <math>\frac{2}{3}</math></div>
175	The number of 5-digit number that can be formed from the digits 1,2,4,6,8, when 2 and 8 are never together is	<div>A. 72</div> <div>B. 48</div> <div>C. 144</div> <div>D. 20</div>
176	Number of selections of n different things out of n	<div>A. 1</div> <div>B. <math>nPr</math></div> <div>C. <math>n!</math></div> <div>D. <math>nPr</math></div>
177	If for two events A and B , $P(A \cup B) = 1$ , then events A and B are	<div>A. Certain events</div> <div>B. Mutually exclusive</div> <div>C. Complementary events</div> <div>D. Independent</div>
178	How many different 5-digit even numbers are possible form digit 1,2,4,6,8	<div>A. <math>4 : 4!</math></div> <div>B. <math>4!</math></div> <div>C. <math>5!</math></div> <div>D. <math>4! + 4!</math></div>
179	The factorial of a positive integers is a (an)	<div>A. Rational number</div> <div>B. Positive integer</div> <div>C. Real number</div> <div>D. None</div>
180	A key ring is an example of	<div>A. Permutation</div> <div>B. Circular permutation</div> <div>C. Combination</div> <div>D. None</div>
181	Probability of an impossible event is	<div>A. 0</div> <div>B. -1</div> <div>C. 1</div> <div>D. <math>\infty</math></div>
182	How many 6-Digit number can be formed without repeating any digit from the digits 0,1,2,3,4,5	<div>A. 720</div> <div>B. 600</div> <div>C. 120</div> <div>D. <math>6 \cdot 5!</math></div>
183	How many committees of 5 numbers can be chosen from a group of 8 players person when each committee must include 2 particular persons	<div>A. <math>8!</math></div> <div>B. <math>5!3!</math></div> <div>C. <math>5!</math></div> <div>D. 20</div>
184	Number of combination of zero or more things out of n different things	<div>A. <math>nPn</math></div> <div>B. <math>nPr</math></div> <div>C. <math>nCr</math></div> <div>D. <math>2^n</math></div>
185	Which one is not defined $\forall n \in \mathbb{Z}^+$	<div>A. <math>-n!</math></div> <div>B. <math>n!</math></div> <div>C. <math>(-n)!</math></div> <div>D. <math>n! + 0! = n! + 1</math></div>
186	In school there are 150 students Out of these 80 students enrolled for mathematics class 50 enrolled for English class and 60 enrolled for Physics class The student enrolled for English cannot attend any other class but the students of mathematics and Physics can take two courses at a time Find the number of students who have taken both physics and mathematics.	<div>A. 40</div> <div>B. 30</div> <div>C. 50</div> <div>D. 20</div>
187	In a school there are 150 students Out of these 80 students enrolled for mathematics class. 50 enrolled for English class and 60 enrolled for Physics class The student enrolled for English cannot attend any other class but the students of mathematics and Physics can take two courses at a time find the number of students who have taken both physics and	<div>A. 40</div> <div>B. 30</div> <div>C. 50</div>

	mathematics.	D. 60
188	In a country 55% of the male population has houses in cities while 30% have houses both in cities and in villages find the percentage of the population that has houses only in villages	A. 45 B. 30 C. 25 D. 50
189	If $n$ is a positive integer then $n!$ is	A. $(n - 1) (n - 2) \dots 3, 2, 1$ B. $n(n - 1) (n - 2) \dots 3, 2, 1$ C. $n(n - 1) (n - 2) \dots 3$ D. None of these
190	For a positive integer $n$	A. $n! = n(n + 1)$ B. $n! = n(n+1)!$ C. $n! = n(n - 1)$ D. $n! = n(n - 1)!$
191	$0! = \underline{\hspace{2cm}}$	A. 0 B. 1 C. 2 D. Not defined
192		A. 8 B. $1/56$ C. 56 D. None of these
193	$8 \cdot 7 \cdot 6 \cdot 5$ in factorial form is	
194	$6! = \underline{\hspace{2cm}}$	A. 360 B. 720 C. 6.5.4 D. None of these
195		A. 56 B. 7 C. 8 D. $8/7$
196	$n(n - 1) (n - 2)$ in factorial form is	
197	$(n + 2) (n + 1)n$ in factorial form is	
198		A. 3 B. 6 C. 0 D. None of these
199		
200		A. $n!$ B. $0!$ C. 1 D. None of these
201		A. 0 B. 20 C. 90 D. 80
202		A. 6 B. 360 C. 120 D. 24
203	$n$ different objects can be arranged taken all at a time in $\underline{\hspace{2cm}}$	A. $(n + 1)!$ ways B. $(n - 1)!$ ways C. $n!$ ways D. $n$ ways
204		A. 120 B. 5 C. 4 D. 6
205	Number of ways of writing the letters of WORD taken all at a time is	A. 24 B. 4 C. 12 D. 6
206	How many arrangements of the letters of the word MISSIPPI, taken all together can be made?	
207	In how many ways can 5 persons be seated at a round table	A. 5! B. 4! C. 3! D. 120

208	How many signals can be given by 5 flags of different colours, using 3 flags at a time	A. 120 B. 60 C. 24 D. 15
209	How many 3 digit numbers can be formed by using each one of the digit 2, 3, 5, 7, 9 only once?	A. 15 B. 24 C. 60 D. 120
210	How many necklaces can be made from 6 beads of different colours?	A. 120 B. 60 C. 24 D. 15
211	When a selection of object is made without paying regard to the order of selection, it is called	A. Sequence B. Series C. Combination D. Permutation
212	The number of permutations of n objects of which there are $n_1$ like of one kind, $n_2$ like of the second kind and $n_3$ like objects of third kind are	
213	Question Image	
214	The number of the diagonals of a 6 sided figure is	A. 15 B. 21 C. 9 D. 6
215	Question Image	
216	Question Image	A. 110 B. 220 C. 1320 D. None of these
217	Question Image	A. 5 B. 20 C. 9 D. 4
218	The sample space for tossing a coin once is	A. {T, T} B. {H, H} C. {H, T} D. None of these
219	The probability to get an odd number in a dice thrown once is	A. 6 B. 1 C. 1/6 D. 1/2
220	A dice is rolled. The probability that the dots on the top are greater than 4 is	A. 1/6 B. 1/3 C. 1/2 D. 1
221	The probability that a slip of number divisible by 4 is picked from the slips bearing numbers 1, 2, 3, ...10 is	A. 1/5 B. 1/4 C. 1/3 D. 1/2
222	Question Image	A. $P(A) + P(B)$ B. $P(A) - P(B)$ C. $P(A) \cdot P(B)$ D. $P(A) / P(B)$
223	The sample space for tossing a coin twice is	A. {H, T} B. {HH, HT, TH, TT} C. {H, T, HH} D. {HH, HT, TT}
224	The probability that a person A will be alive 15 years hence is 5/7 and the probability that another person B will be alive 15 years hence is 7/9. Find the probability that both will be alive 15 years hence	A. 4/63 B. 5/9 C. 45/49 D. None of these
225	Question Image	A. 0 B. -1 C. 1 D. 2
226	If n is a negative integer $n!$ is	A. 1 B. 0 C. Unique D. Not defined
227	9. 8. 7. 6= _____	

228	$(n + 2) (n + 1) n =$ _____	
229	Question Image	
230	Question Image	
231	$n(n - 1) (n - 2) \dots (n - r + 1) =$ _____	
232	Question Image	
233	20. 19. 18. 17= _____	
234	Question Image	A. 36 B. 360 C. 24 D. 6
235	The number of words that can be formed out of the letters of the word ASSASSINATION is	
236	How many arrangements of the letters of the word MATHEMATICS can be made	
237	How many arrangements of the letters of the word PAKISTAN can be made	
238	How many arrangements of the letters of the word PAKPATTAN can be made	
239	How many arrangements of the letters of the word ADDING can be made	
240	The probability to get an odd number in a dice thrown once is	A. 1/2 B. 1/6 C. 1/3 D. 2
241	Question Image	
242	Question Image	
243	Question Image	A. 5 B. 10 C. 20 D. 30
244	Question Image	
245	Question Image	
246	Two balanced dice are tossed once, the sample space when the integers on the faces of two dice are the same is	A. $\{(1, 1), (2, 2), (3, 3)\}$ B. $\{(4, 4), (5, 5), (6, 6)\}$ C. $\{(1, 1), (2, 2), (3, 3), (4, 4), (5, 5), (6, 6)\}$ D. None of these
247	Three unbiased coins are tossed. Then the probabilities of getting two heads is	A. 3/8 B. 1/8 C. 1/4 D. None of these
248	An unbiased die is thrown. Then the probability of getting a prime is	A. 1/2 B. 2/3 C. 3/4 D. None of these
249	A coin is tossed. If head comes up, a die is thrown but if tail comes up, the coin is tossed again. The probability of obtaining a head and an even number is	A. 1/8 B. 2/8 C. 3/8 D. None of these
250	A card is drawn from a pack of cards numbered 1 to 52, the probability that the number on the card is a perfect square is	A. 1/13 B. 2/13 C. 7/52 D. None of these
251	A bag contains 3 white, 4 black and 2 red balls. If 2 balls are drawn at random, then the probability that both the balls are white is	A. 1/18 B. 1/12 C. 1/36 D. None of these
252	Form a group of 5 men and 3 women, a committee of 4 persons is to be selected randomly. The probability that there is a majority of men is	A. 1/4 B. 1/3 C. 1/2 D. 1/6
253	Six boys and 3 girls are to be seated at random, in a row, for a photograph. The probability that no two girls will sit together is	A. 1/12 B. 1/6 C. 5/12 D. 7/12

254	Four cards are drawn at random from a pack of 52 playing cards. The probability of getting all the four cars of the same suit is	A. 44/4165 B. 22/4165 C. 11/4165 D. None of these
255	5 unbiased coins coins are tossed simultaneously. The probability of getting at least one head is	A. 1 / 32 B. 31 / 32 C. 1 / 16 D. None of these
256	Two unbiased dice are thrown. The probability that the total score is > 5 is	A. 1 / 18 B. 7 / 18 C. 13 / 18 D. 11 / 18
257	Two cards are drawn at random from a well shuffled pack of cards. The probability that at least one of them is a face card is	A. 3 / 17 B. 5 / 17 C. 7 / 17 D. 9 / 17
258	Three dice are thrown together. The probability of getting a total of at least 6 is	A. 103 / 108 B. 10 / 216 C. 93 / 108 D. None of these
259	There are 25 tickets bearing number from 1 to 25. One ticket is drawn at random. The probability that the number on it is a multiple of 5 or 6 is	A. 7 / 25 B. 9 / 25 C. 11 / 25 D. None of these
260	In a class of 100 students, 60 drink tea, 50 drink coffee and 30 drink both. A student from his class is selected at takes at last one of 2 drinks is	A. 2 / 5 B. 3 / 5 C. 4 / 5 D. None of these
261	The value of n, when ${}^nP_2 = 20$ is	A. 3 B. 4 C. 6 D. 5
262	Riaz, Saba, Maria, Shehzad are to give speeches in a class. The teacher can arrange the order of their presentation in	A. 4 ways B. 12 ways C. 256 ways D. 24 ways
263	If $4 {}^6P_r = {}^6P_{r+1}$ , then r is equal to	A. 4 B. 3 C. 2 D. 1
264	All letters of the word "AGAIN" are permuted in all possible ways and the words so formed (with or without meaning) are written as in dictionary, then the 50th word is	A. NAAGI B. NAAIG C. IAANG D. INAGA
265	The number of significant numbers which can be formed by using any number of the digits 0, 1, 2, 3, 4 but using each not more than once in each number is	A. 260 B. 356 C. 410 D. 96
266	Number of permutations of n distinct objects taken $r (< n - 3)$ at a time which exclude $3 (< n)$ particular objects is	A. $3! P(n, r - 3)$ B. $P(n, 3) P(n, r - 3)$ C. $P(r, r) P(n, r - 3)$ D. $P(n - 3, r)$
267	The number of ways of arranging the letter AAAAA BBB CCC D EE F in a row when no two C's are together is	
268	Fifteen girls compete in a race. The first three places can be taken by them in	A. 3! ways B. 12! ways C. $15 \times 14 \times 13$ ways D. 42 ways
269	There are n seats round a table numbered 1, 2, 3 .... n. The number of ways in which m person can take seats is	A. $\frac{n!}{(n-m)!} P(m, m)$ B. $\frac{n!}{(n-m)!} C(m, m) \times (m-1)!$ C. $\frac{n!}{(n-m)!} P(m, m)$ D. None of these
270	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 marked 1 to 4 and then the men select the chairs from amongst the remaining. The number of possible arrangement is	A. $\frac{8!}{4!} C(4, 2) \times \frac{4!}{2!} C(4, 3)$ B. $\frac{8!}{4!} C(4, 2) \times \frac{4!}{2!} C(4, 3)$ C. $\frac{8!}{4!} P(4, 2) \times \frac{4!}{2!} P(4, 3)$ D. None of these
		A. 3 / 10 B. 1 / 10

271	An integer is chosen at random from the number ranging from 1 to 50. the probability that the integer chosen is a multiple of 2 or 3 or 10 is	B. $\frac{5}{10}$ C. $\frac{7}{10}$ D. $\frac{9}{10}$
272	Question Image	A. 0.9 B. 0.74 C. 0.2016 D. None of these
273	Question Image	A. 1.5 B. 1.2 C. 8 D. None of these
274	Question Image	
275	Question Image	A. $\frac{1}{2}$ B. $\frac{1}{3}$ C. $\frac{1}{4}$ D. None of these
276	A bag contains 7 whit, 5 black and 4 rd balls. If two balls are drawn at random from the bag, the probability that they are not of the same color is	A. $\frac{73}{120}$ B. $\frac{83}{120}$ C. $\frac{67}{120}$ D. $\frac{43}{120}$
277	Two cards are drawn at random without replacement. the probability that the first is a king and second is not a king is	A. $\frac{48}{663}$ B. $\frac{24}{663}$ C. $\frac{12}{663}$ D. None of these
278	A bag contains 5 white, 7 red and 5 black balls. If four balls are drawn one by one with replacement, the probability that none is white is	A. $(\frac{11}{16})^2$ B. $(\frac{5}{16})^2$ C. $(\frac{11}{16})^4$ D. $(\frac{5}{16})^4$
279	A committee consists of 9 experts taken from three institutions A, B, and C, of which 2 are from, A, 3 form B and 4 from C. If three experts resign, then the probability that they belong to different institutions is	A. $\frac{1}{729}$ B. $\frac{1}{24}$ C. $\frac{1}{21}$ D. $\frac{2}{7}$
280	Three numbers are chosen random without replacement from $\{1, 2, 3, \dots, 10\}$ . the probability that minimum of the chosen numbering is 3 or their maximum is 7	A. $\frac{7}{40}$ B. $\frac{5}{40}$ C. $\frac{11}{40}$ D. None of these
281	Out of 40 consecutive natural numbers, two are chosen at random. Probability that the sum of the numbers is odd, is	A. $\frac{14}{29}$ B. $\frac{20}{39}$ C. $\frac{1}{2}$ D. n
282	The probability of getting a number between 1 and 100 which is divisible by 1 and itself if only is	A. $\frac{1}{4}$ B. $\frac{1}{2}$ C. $\frac{3}{4}$ D. $\frac{25}{98}$
283	If two balls are drawn from a bag containing 3 white, 4 black and 5 red balls. Then the probability that the drawn balls are of different colours is	A. $\frac{1}{66}$ B. $\frac{3}{66}$ C. $\frac{19}{66}$ D. $\frac{47}{66}$
284	Five engineering, four mathematics, two chemistry books are placed on a table at random.The probability that the books of each kind are all together is	
285	The key for opening a door is in a bunch of 10 keys. A man attempts to open the door by trying the keys at random discarding the wrong key. The probability that the door is opened in the 5th trial is	A. $\frac{1}{10}$ B. $\frac{2}{10}$ C. $\frac{3}{10}$ D. $\frac{4}{10}$
286	A machine operates if all of its three components function. The probability that the first component fails during the year is 0.14, the second component fails is 0.10 and the third component fails is 0.05. the probability that the machine will fail during the year is	A. 0.2647 B. 0.2692 C. 0.3647 D. None of these
287	A combination lock on a suitcase has 3 wheels each labeled with nine digits from 1 to 9. If an opening combination is a particular sequence of three digits with no repeats, the probability of a person guessing the right combination is	A. $\frac{1}{500}$ B. $\frac{1}{504}$ C. $\frac{1}{252}$ D. $\frac{1}{250}$
288	Out of 10, 000 families with 4 children each, the number of families all of whose children are daughters is	A. 375 B. 500 C. 625 D. 150
289	A card is drawn from a pack of cards numbered 2 to 53. the probability that the number on the card is prime number less than 20 is	A. $\frac{2}{13}$ B. $\frac{4}{13}$ C. $\frac{5}{13}$ D. $\frac{8}{13}$

290	An experiment yields 3 mutually exclusive and exhaustive events A, B, C, if $P(A) = 2$ and $P(B) = 3$ . then $P(C) =$	A. $1/11$ B. $2/11$ C. $3/11$ D. $6/11$
291	A box containing 10 mangoes out of which 4 are rotter. Two mangoes are taken together from the box. If one of them is found to be good, the probability that the other is also good is	A. $1/3$ B. $8/15$ C. $5/13$ D. $5/9$
292	For two events A and B if $P(A) = P(A/B) = 1/4$ and $P(B/A) = 1/2$ , then	A. A is sub-event of B B. A and B are mutually exclusive C. A and B are independent and $P(A/B) = 3/4$ D. None of these
293	Given two independent event A and B such that $P(A) = 0.30$ and $P(B) = 0.60$ . Probability of getting neither A nor B is	A. 0.28 B. 0.13 C. 0.12 D. 0.42
294	A and B throw a dice. The probability that A's throw is not greater then B's is	A. $5/12$ B. $7/12$ C. $1/6$ D. $1/2$
295	A die is thrown 100 times. If getting an odd number is considered a success, the variance of the number of successes is	A. 50 B. 25 C. 10 D. 100
296	Question Image	A. $5/12$ B. $3/8$ C. $5/8$ D. $7/4$
297	Three integers are chosen at random from the first 20 integers. Then probability that their product is even, is	A. $2/19$ B. $3/29$ C. $17/19$ D. $4/19$
298	Cycle tyres are supplied in lots of 10 and there is a chance if 1 in 500 tyres to be defective. Using Poisson distribution, the approximate number of lots containing no defective tyre in a consignment of 10, 0000 lots is	A. 9028 B. 9208 C. 9802 D. 9820
299	There are 16 point in a plane, in which 6 are collinear. how many lines can be drawn by joining these points?	A. 10 B. 66 C. 71 D. 106
300	What is the probability of being born on Wednesday?	A. $1/7$ B. $1/2$ C. $1/3$ D. $1/8$
301	A class contains nine boys and three girls, in how many ways can the teacher choose a committee of four?	A. 60 B. 460 C. 495 D. 272
302	A die is rolled. What is the probability that the dots on the top are greater than 4?	A. $1/4$ B. $1/2$ C. $1/3$ D. $1/33$
303	A die is thrown, the probability that the dots on the top are prime numbers or odd numbers is	A. $1/2$ B. $2/3$ C. $1/3$ D. $2/5$
304	The probability that the sum of dots appearing in two successive thrown of two dice, in every time 7 is	A. $1/5$ B. $1/36$ C. $1/7$ D. $1/63$
305	Two coins are tossed twice each. The probability that the head appears on the first toss and the same forces appear in the two tosses is	A. $1/4$ B. $1/2$ C. $1/3$ D. $1/7$
306	$n!/((n-1)!) =$	A. n B. n! C. $(n-1)!$ D. 0!