ECAT Mathematics Chapter 9 Permutation, Combination and Probability Online Test

Sr	Questions	Answers Choice
1	The probability to get an odd number in a dice thrown once is	A. 1/2 B. 1/6 C. 1/3 D. 2
2	8 . 7 . 6. 5 in factorial form is	
3	How many comittees 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
4	Number of combination of zero or more things out of n different things	A. nPn B. nPr C. nCr D. 2n
5	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
6	In how many ways can 5 persons be seated at a round table	A. 5! B. 4! C. 3! D. 120
7	If 4 $^{6}P_{r}$= $^{6}P_{r+1}$, then r is equal to	A. 4 B. 3 C. 2 D. 1
8	probability of a certain event is	A. 0 B. -1 C. 1 D. ∞
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	Number of selections of n different things out of n	A. 1 B. nPr C. n! D. nPr
11	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
12	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
13	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
14	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)!
15	The probability to get an odd number in a dice thrown once is	A. 6 B. 1 C. 1/6 D. 1/2
16	A sequence is a function whose domain is	A. N B. Subset of N C. R

		D. None of these
17	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
18	Question Image	
19	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. 3 / 10 B. 5 / 10 C. 7 / 10 D. 9 / 10
20	Question Image	A. 5 B. 10 C. 20 D. 30
21	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
22	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}
23	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
24	How many arrangements of the letters of the word PAKISTAN cab be made	
25	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
26	Question Image	A. P(A) + P(B) B. P(A) - P(B) C. P(A) . P(B) D. P(A) / P(B)
27	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
28	(n + 2) (n + 1)n in factorial form is	
29	The number of permutation that can be formed from the letters of the word OBJECT is	A. 700 B. 600 C. 720 D. 620
30	Question Image	
31	Arithmetic mean between 14 and 18 is	A. 16 B. 17 C. 15 D. 32
32	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
33	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
34	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. 1 / 500 B. 1 / 504 C. 1 / 252 D. 1 / 250
35	A bag contains 3 white, 4 black and 2 red balls. If 2 balls are drawn at random, then the probability that both the ball are white is	A. 1/18 B. 1/12 C. 1/36 D. None of these
36	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

		C. 15 x 14 x 13 ways D. 42 ways
37	Question Image	
38	If A and B are two disjoint events then	A. P(A∪B)=P(A)+P(B) B. P(A∪B)=P(A)-P(A∪B) C. P(A∪B)=P(A)or P(B) D. None
39	Question Image	
40	How many arrangements of the letters of the word MI SSI PPI, taken all together can be made?	
41	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. ⁶C₃x ⁴C₂ B. ⁴C₂x ⁴P₃ C. ⁴P₂x ⁶P₃ D. None of these
42	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
43	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
44	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
45	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
46	Question Image	
47	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
48	Probability of an impossible event is	A. 0 B. -1 C. 1 D. ∞
49	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
50	Question Image	A. 5 B. 20 C. 9 D. 4
51	n(n - 1) (n - 2) in factorial form is	
52	The number of words that can be formed out of the letters of the word ASSASSINATION is	
53	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!
54	nCn-r is equal to	A. n! B. n-1Cr C. nCr D. None of these
55	The probability of getting a number between 1 and 100 which is divisible by 1 and itself if only is	A. 1 / 4 B. 1 / 2 C. 3 / 4 D. 25 / 98
56	A key ring is an example of	A. Permutation B. Circular permutation C. Combination D. None

57	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
58	Question Image	A. 56 B. 7 C. 8 D. 8/7
59	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
60	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
61	Question Image	
62	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. 2 / 13 B. 4 / 13 C. 5 / 13 D. 8 / 13
63	The domain of an infinite sequence is a	A. Set of natural numbers B. R C. Subset of N D. None of the above
64	The sum of all odd numbers between 100 and 200 is	A. 6200 B. 7500 C. 6500 D. 3750
65	If A is an event then which of the following is true	A. P(A)<0 B. 0≥P(A)≤1 C. P(A)>0 D. None
66	n(n - 1) (n - 2) .... (n - r + 1) = _____	
67	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. ⁿP_m B. ⁿC_mx (m - 1) ! C. ⁿ⁻¹P_m D. None of these
68	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
69	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
70	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
71	Question Image	A. 6 B. 360 C. 120 D. 24
72	Question Image	A. 1 / 2 B. 1 / 3 C. 1 / 4 D. None of these
73	Question Image	
74	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
75	The value of n, when ${}^{n}P_{2}$= 20 is	A. 3 B. 4 C. 6 D. 5

76	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
77	The sum if 1,3,5,7,9..... up to 20 terms is	A. 400 B. 472 C. 563 D. 264
78	An event having more than one sample point is called	A. Certain event B. Compound event C. Simple event D. None
79	The domain of a finite sequence is a	A. Set of natural numbers B. R C. Subset of N D. Proper subset of N
80	6! = _____	A. 360 B. 720 C. 6.5.4 D. None of these
81	How many arrangements of the letter of the word PAKPATTAN can be made	
82	Question Image	A. 0 B. 20 C. 90 D. 80
83	Question Image	A. 0 B. -1 C. 1 D. 2
84	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
85	What is the probability of being born on Wednesday?	A. 1/7 B. 1/2 C. 1/3 D. 1/8
86	If n is a positive integer then n! is	A. (n - 1) (n - 2) .....3,.2.1 B. n(n - 1) (n - 2) ...3.2.1 C. n(n - 1) (n -2) ... 3 D. None of these
87	The sum of all even numbers less than 100 is	A. 2450 B. 2352 C. 2272 D. 2468
88	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
89	Question Image	A. 36 B. 360 C. 24 D. 6
90	9. 8. 7. 6= _____	
91	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
92	Number of ways of writing the letters of WORD taken all at a time is	A. 24 B. 4 C. 12 D. 6
93	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
94	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

95	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. 1 / 10 B. 2 / 10 C. 3 / 10 D. 4 / 10
96	Question Image	A. 120 B. 5 C. 4 D. 6
97	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
98	Question Image	A. 0.9 B. 0.74 C. 0.2016 D. None of these
99	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
100	Two cards are drawn at random without replacement. the probability that the first is a king and second is not a king is	A. 48 / 663 B. 24 / 663 C. 12 / 663 D. None of these
101	The sum of all positive integral multiple of 5 less than 100 is	A. 950 B. 760 C. 1230 D. 875
102	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)
103	The sample space for tossing a coin once is	A. {T, T} B. {H, H} C. {H, T} D. None of these
104	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
105	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
106	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. 7 / 40 B. 5 / 40 C. 11 / 40 D. None of these
107	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
108	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
109	How many arrangements of the letters of the word MATHEMATICS can be made	
110	Out of 40 consecutive natural numbers, two are chosen at random. Probability that the sum of the numbers is odd, is	A. 14 / 29 B. 20 / 39 C. 1 / 2 D. n
111	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	
112	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
		A. (n + 1)! ways

113	n different objects can be arranged taken all at a time in _____	B. (n - 1)! ways C. n! ways D. n ways
114	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	
115	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
116	How many arrangements of the letters of the word ADDING can be made	
117	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
118	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. 73 / 120 B. 83 / 120 C. 67 / 120 D. 43 / 120
119	Question Image	
120	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
121	Question Image	
122	n!/(n-1)!=	A. n B. n! C. (n-1)! D. 0!
123	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	
124	How many 6-Digit number can be formed without repairing any digit from the digits 0,1,2,3,4,5	A. 720 B. 600 C. 120 D. 6-5!
125	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
126	Product of any n consecutive positive integers is divisible by	A. n B. √n C. n! D. None
127	Question Image	
128	If n is a negative integer n! is	A. 1 B. 0 C. Unique D. Not defined
129	20. 19. 18. 17= _____	
130	The number of combinations of 10 different objects taken 8 objects at a time is	A. 90 B. 45 C. 55 D. 50
131	Which one is not defined $\forall n \in Z+$	A. -n! B. n! C. (-n)! D. n!+0!=n!+1
132	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
133	Question Image	A. 110 B. 220 C. 1320 D. None of these
134	Question Image	A. 8 B. 1/56 C. 56

		D. None of these
135	If S is a sample space and event set E =Φ then P(E) is	A. >0 B. 1 C. <1 D. 0
136	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
137	0! = _____	A. 0 B. 1 C. 2 D. Not defined
138	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. 1 / 66 B. 3 / 66 C. 19 / 66 D. 47 / 66
139	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
140	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. (11/16)² B. (5/16)² C. (11/16)⁴ D. (5/16)⁴
141	Question Image	A. n! B. 0! C. 1 D. None of these
142	Question Image	
143	(n + 2) (n + 1) n= _____	
144	How many necklaces can be made from 6 beads of different colours?	A. 120 B. 60 C. 24 D. 15
145	The factorial of a positive integers is a (an)	A. Rational number B. Positive integer C. Real number D. None
146	If for two events A and B , P(A∪B)=1,then events A and B are	A. Certain events B. Mutually exclusive C. Complementary events D. Independent
147	Question Image	A. 5 / 12 B. 3 / 8 C. 5 / 8 D. 7 / 4
148	If S is a sample space and event set E = S then P(E) is	A. >0 B. 1 C. <1 D. 0
149	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. 1 / 729 B. 1 / 24 C. 1 / 21 D. 2 / 7
150	The number of the diagonals of a 6 sided figure is	A. 15 B. 21 C. 9 D. 6
151	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.	A. 40 B. 30 C. 50 D. 20
152	Question Image	A. 1.5 B. 1.2 C. 8 D. None of these
		A. 3

153	Question Image	B. 6 C. 0 D. None of these