

## ECAT Mathematics Chapter 9 Permutation, Combination and Probability

Sr	Questions	Answers Choice
1	Number of permutations of $n$ distinct objects taken $r$ ( $r < n - 3$ ) at a time which exclude 3 ( $3 < n$ ) 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. $P(n - 3, r)$
2	Two unbiased dice are thrown. The probability that the total score is $> 5$ is	A. $1 / 18$ B. $7 / 18$ C. $13 / 18$ D. $11 / 18$
3	If $S$ is a sample space and event set $E = \Phi$ then $P(E)$ is	A. $> 0$ B. 1 C. $< 1$ D. 0
4	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. $n!$ B. $0!$ C. 1 D. None of these
5	Question Image <input style="width: 500px; height: 20px;" type="text"/>	
6	In how many ways can 5 persons be seated at a round table	A. $5!$ B. $4!$ C. $3!$ D. 120
7	If $S$ is a sample space and event set $E = S$ then $P(E)$ is	A. $> 0$ B. 1 C. $< 1$ D. 0
8	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. $P(A) + P(B)$ B. $P(A) - P(B)$ C. $P(A) \cdot P(B)$ D. $P(A) / P(B)$
9	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
10	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
11	The sample space for tossing a coin once is	A. $\{T, T\}$ B. $\{H, H\}$ C. $\{H, T\}$ D. None of these
12	If $4 {}^6P_r = {}^6P_{r+1}$ , then $r$ is equal to	A. 4 B. 3 C. 2 D. 1
13	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	
14	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
15	probability of a certain event is	A. 0 B. -1 C. 1 D. $\infty$
16	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. $(5/16)^4$

D.  $(5/16)^4$

17 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

18 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.  $47/66$

19 The sum of 1, 3, 5, 7, 9, ..... up to 20 terms is

- A. 400
- B. 472
- C. 563
- D. 264

20 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}