

GATE Aptitude Practice Questions Probability

- Q.No. 1 A couple has 2 children. The probability that both children are boys if the older one is a boy is
(A) $1/4$ (B) $1/3$ (C) $1/2$ (D) 1
- Q.No. 2 Two dice are thrown simultaneously. The probability that the product of the numbers appearing on the top faces of the dice is a perfect square is
(A) $1/9$ (B) $2/9$ (C) $1/3$ (D) $4/9$
- Q.No. 3 There are 3 red socks, 4 green socks and 3 blue socks. You choose 2 socks. The probability that they are of the same colour is
(A) $1/5$ (B) $7/30$ (C) $1/4$ (D) $4/15$
- Q.No. 4 The probability that a k -digit number does NOT contain the digits 0, 5, or 9 is
(A) 0.3^k (B) 0.6^k (C) 0.7^k (D) 0.9^k
- Q.No. 5 Shaquille O' Neal is a 60% career free throw shooter, meaning that he successfully makes 60 free throws out of 100 attempts on average. What is the probability that he will successfully make exactly 6 free throws in 10 attempts?
(A) 0.2508 (B) 0.2816 (C) 0.2934 (D) 0.6000
- Q.No. 6 Four cards are randomly selected from a pack of 52 cards. If the first two cards are kings, what is the probability that the third card is a king?
(A) $4/52$ (B) $2/50$ (C) $(1/52) \times (1/52)$ (D) $(1/52) \times (1/51) \times (1/50)$

Q.No. 7 Given Set $A = \{2, 3, 4, 5\}$ and Set $B = \{11, 12, 13, 14, 15\}$, two numbers are randomly selected, one from each set. What is the probability that the sum of the two numbers equals 16?

- (A) 0.20 (B) 0.25 (C) 0.30 (D) 0.33

Q.No. 8 The probabilities that a student passes in Mathematics, Physics and Chemistry are m , p , and c respectively. Of these subjects, the student has 75% chance of passing in at least one, a 50% chance of passing in at least two and a 40% chance of passing in exactly two. Following relations are drawn in m , p , c :

- (I) $p + m + c = 27/20$
(II) $p + m + c = 13/20$
(III) $(p) \times (m) \times (c) = 1/10$

- (A) Only relation I is true.
(B) Only relation II is true.
(C) Relations II and III are true.
(D) Relations I and III are true.

Q.No. 9 Ram and Ramesh appeared in an interview for two vacancies in the same department. The probability of Ram's selection is $1/6$ and that of Ramesh is $1/8$. What is the probability that only one of them will be selected?

- (A) $47/48$
(B) $1/4$
(C) $13/48$
(D) $35/48$

Q.No. 10 10% of the population in a town is HIV^+ . A new diagnostic kit for HIV detection is available; this kit correctly identifies HIV^+ individuals 95% of the time, and HIV^- individuals 89% of the time. A particular patient is tested using this kit and is found to be positive. The probability that the individual is actually positive is _____

- Q.No. 11** You are given three coins: one has heads on both faces, the second has tails on both faces, and the third has a head on one face and a tail on the other. You choose a coin at random and toss it, and it comes up heads. The probability that the other face is tails is
- (A) $1/4$ (B) $1/3$ (C) $1/2$ (D) $2/3$
- Q.No. 12** A batch of one hundred bulbs is inspected by testing four randomly chosen bulbs. The batch is rejected if even one of the bulbs is defective. A batch typically has five defective bulbs. The probability that the current batch is accepted is _____
- Q.No.13** In a factory, two machines M1 and M2 manufacture 60% and 40% of the autocomponents respectively. Out of the total production, 2% of M1 and 3% of M2 are found to be defective. If a randomly drawn autocomponent from the combined lot is found defective, what is the probability that it was manufactured by M2?
- (A) 0.35 (B) 0.45 (C) 0.5 (D) 0.4
- Q.No.14** Out of all the 2-digit integers between 1 and 100, a 2-digit number has to be selected at random. What is the probability that the selected number is not divisible by 7?
- (A) $13/90$ (B) $12/90$ (C) $78/90$ (D) $77/90$
- Q.No. 15** What is the chance that a leap year, selected at random, will contain 53 Saturdays?
- (A) $2/7$ (B) $3/7$ (C) $1/7$ (D) $5/7$
- Q.No.16** Two policemen, A and B, fire once each at the same time at an escaping convict. The probability that A hits the convict is three times the probability that B hits the convict. If the probability of the convict not getting injured is 0.5, the probability that B hits the convict is
- (A) 0.14 (B) 0.22 (C) 0.33 (D) 0.40

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Q.No. 17 An automobile plant contracted to buy shock absorbers from two suppliers X and Y. X supplies 60% and Y supplies 40% of the shock absorbers. All shock absorbers are subjected to a quality test. The ones that pass the quality test are considered reliable. Of X's shock absorbers, 96% are reliable. Of Y's shock absorbers, 72% are reliable.

The probability that a randomly chosen shock absorber, which is found to be reliable, is made by Y is

- (A) 0.288 (B) 0.334 (C) 0.667 (D) 0.720

Q.No. 18 A and B are friends. They decide to meet between 1 PM and 2 PM on a given day. There is a condition that whoever arrives first will not wait for the other for more than 15 minutes. The probability that they will meet on that day is

- (A) $1/4$ (B) $1/16$ (C) $7/16$ (D) $9/16$

Answer Key

Q. No.	Ans.
1	C
2	B
3	D
4	C
5	A
6	B
7	A
8	D
9	B
10	0.48-0.49
11	B
12	0.80-0.82
13	C
14	D
15	A
16	A
17	B
18	C



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