## **Topper's Secret Questions** Probability

1. Which of the following cannot be the probability of an event? (B)  $\frac{2}{2}$ (C) −1.5 (A) 0.7 (D) 15% 2. Which of the following can be the probability of an event? (C)  $\frac{18}{22}$ (D)  $\frac{8}{7}$ (A) - 0.04(B) 1.004 3. An event is very unlikely to happen, its probability is closest to (A) 0.0001 (B) 0.001 (C) 0.01 (D) 0.1 4. Out of one digit prime numbers, one number is selected at random. The probability of selecting an even number is: (B)  $\frac{1}{4}$ (D)  $\frac{2}{r}$  $(A)\frac{1}{2}$ (C)  $\frac{4}{9}$ 5. When a die is thrown, the probability of getting an odd number less than 3 is: (B)  $\frac{1}{2}$  $(A)\frac{1}{6}$  $(C)\frac{1}{2}$ (D) 0 6. Rashmi has a die whose six faces show the letters as given below: В D Α А If she throws the die once, then the probability of getting C is: (A)  $\frac{1}{3}$ (C)  $\frac{1}{r}$ (D)  $\frac{1}{6}$ (B)  $\frac{1}{4}$ 7. A card is drawn from a well shuffled pack of 52 playing cards. The event E is that the card drawn is not a face card. The number of outcomes favourable to the event E is: (A) 51 (B) 40 (C) 36 (D) 12 8. In a family of 3 children, the probability of having atleast one boy is: (D)  $\frac{3}{4}$ (A)  $\frac{7}{8}$ (B)  $\frac{1}{2}$ (C)  $\frac{5}{8}$ 

9. The probability that a non-leap year selected at random will contains 53 Mondays is:

(A) 
$$\frac{1}{7}$$
 (B)  $\frac{2}{7}$  (C)  $\frac{3}{7}$  (D)  $\frac{5}{7}$ 

10. One alphabet is chosen from the word MATHEMATICS. The probability of getting a vowel is:

(A) 
$$\frac{6}{11}$$
 (B)  $\frac{5}{11}$  (C)  $\frac{3}{11}$  (D)  $\frac{4}{11}$ 

11. Two coins are tossed simultaneously. The probability of getting at most one head is

(A) 
$$\frac{1}{4}$$
 (B)  $\frac{1}{2}$  (C)  $\frac{2}{3}$  (D)  $\frac{3}{4}$ 

12. A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is neither an ace nor a king.

13. If 29 is removed from (1, 4, 9, 16, 25, 29), then find the probability of getting a prime number.

14. Two dice are rolled simultaneously. Find the probability that the sum of the two numbers appearing on the top is more than and equal to 10.

15. Find the probability of multiples of 7 in 1, 2, 3, ....., 33, 34, 35.

16. An integer is chosen random between 1 and 100. Find the probability that (i) it is divisible by 8, (ii) Not divisible by 8.

17. Three different coins are tossed together. Find the probability of getting (i) exactly two heads, (ii) at least two heads.

18. Cards marked with number 3, 4, 5, .... 50 are placed in a box and mixed thoroughly. A card is drawn at random from the box. Find the probability that the selected cards bears a perfect square number.

19. If a number x is chosen at random from the numbers -3, -2, -1, 0, 1, 2, 3. What is probability that  $x^2 \le 4$ ?

20. A number x is selected at random from the numbers 1, 2, 3 and 4. Another number y is selected at random from the numbers 1, 4, 9 and 16. Find the probability that the product of x and y is less than 16.

21. In a lottery, there are 10 prizes and 25 are empty. Find the probability of getting a prize. Also verify  $P(E) + P(\overline{E}) = 1$  for this event.

22. The probability of a defective egg in a lot of 400 eggs is 0.035. Calculate the number of defective eggs in the lot. Also calculate the probability of taking out a non-defective egg from the lot.

23. Slips marked with numbers 3,3,5,7,7,7,9,9,9,11 are placed in a box at a game stall in a fair. A person wins if the mean of numbers are written on the slip. What is the probability of his losing the game?

24. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears

(i) a two digit number (ii) a perfect square number (iii) a number divisible by 5.

25. A die is thrown twice. Find the probability that:

(i) 5 will come up at least once (ii) 5 will not come up either time

26. Cards marked 1, 3, 5 .... 49 are placed in a box and mixed thoroughly. One card is drawn from the box. Find the probability that the number on the card is:

(i) Divisible by 3 (ii) a composite number

(iii) Not a perfect square (iv) multiple of 3 and 5

27. Red queens and black jacks are removed from a pack of 52 playing cards. Find the probability that the card drawn from the remaining cards is:

(i) a card of clubs or an ace (ii) a black king

(iii) neither a jack nor a king (iv) either a king or a queen

28. A box contain 100 red cards, 200 yellow cards and 50 blue cards. If a card is drawn at random from the box, find the probability that it will be:

(a) a blue card (b) not a yellow card (c) neither yellow nor a blue card

29. A die has its six faces marked 0,1,1,1,6,6. Two such dice are thrown together and the total score is recorded.

(i) How many different scores are possible?

(ii) What is the probability of getting a total of 7?

30. A bag contains 24 balls of which x are red, 2x are white and 3x are blue. A ball is selected at random. What is the probability that it is

(i) not red? (ii) white?

## <mark>ANSWER'S</mark>

Q1. C	Q17. (i) $\frac{3}{8}$ (ii) $\frac{1}{2}$
Q2. C	Q18. <sup>1</sup>
Q3. A	8
Q4. B	Q19. $\frac{-}{7}$
Q5. A	Q20. $\frac{1}{2}$
Q6. A	Q21.1
Q7. <i>B</i>	Q22. 14, 0.965
Q8. A	Q23. $\frac{7}{10}$
Q9. <i>A</i>	Q24. (i) $\frac{9}{-}$ (ii) $\frac{1}{-}$ (iii) $\frac{1}{-}$
Q10. D	$10^{10}$ $10^{10}$ $10^{10}$ $5^{16}$ $25^{16}$
Q11. D	Q25. (i) $\frac{10}{25}$ (ii) $\frac{25}{36}$
Q12. $\frac{11}{13}$	Q26. (i) $\frac{8}{25}$ (ii) $\frac{2}{5}$ (iii) $\frac{21}{25}$ (iv) $\frac{2}{25}$
Q13. 0	Q27. (i) $\frac{1}{3}$ (ii) $\frac{1}{24}$ (iii) $\frac{7}{8}$ (iv) $\frac{1}{8}$
Q14. $\frac{1}{6}$	Q28. (a) $\frac{1}{7}$ (b) $\frac{3}{7}$ (c) $\frac{2}{7}$
Q15. $\frac{1}{7}$	Q29. (i) 8 scores (ii) $\frac{1}{3}$
Q16. (i) $\frac{6}{49}$ (ii) $\frac{43}{49}$	Q30. (i) $\frac{5}{6}$ (ii) $\frac{1}{3}$