

Class: XI
Subject: Math's
Topic: Probability
No. of Questions: 20

- Let Q, R, T be three events. If the probability of occurring exactly one of the event out of Q and R is $1-y$, out of R and T is $1-2y$, out of T and Q is $1-y$, and that of occurring three events simultaneously is y^2 , then the probability (P) that at least one out of Q, R, T will, occur is
 - greater than $1/2$
 - greater than 1
 - greater than and equal to $1/2$
 - less than and equal to 1
- A, B, C are events such that $p(A) = 0.3$, $p(B) = 0.4$, $p(C) = 0.8$, $P(A \cap B) = 0.08$, $P(A \cap C) = 0.28$, $P(A \cap B \cap C) = 0.09$. If $P(A \cup B \cup C) \geq 0.75$, then $P(B \cap C)$ lies in the interval
 - (- 0.48, 0.23)
 - (0.23, 0.48)
 - (0.75, 0.48)
 - None of these
- If A, B and C are three mutually exclusive and exhaustive events of an experiment such that $3P(A) = 2P(B) = P(C)$, then $P(A)$ is equal to
 - $\frac{1}{11}$
 - $\frac{2}{11}$
 - $\frac{5}{11}$
 - $\frac{6}{11}$

4. Four digit numbers are formed using the digits 0 to 4 without repetition. The probability that a number so formed is divisible by 2 is

- A. $\frac{2}{3}$
B. $\frac{3}{8}$
C. $\frac{7}{9}$
D. $\frac{5}{8}$

5. Three squares of a chess board are selected at random. The probability of getting 2 squares of one colour and other of a different colour is

- A. $\frac{16}{21}$
B. $\frac{21}{8}$
C. $\frac{3}{32}$
D. $\frac{3}{8}$

6. One mapping (function) is selected at random from all the mappings of the set $A = \{1, 2, 3, \dots, n\}$ into itself. The probability that the mapping selected is one to one is

- A. $\frac{1}{n^n}$
B. $\frac{1}{n!}$
C. $\frac{(n-1)!}{n^{n-1}}$
D. None of these

7. Three digit numbers are formed using the digits 0, 2, 4, 6, 8. A number is chosen at random out of these numbers. What is the probability that this number has the same digits?

- A. $\frac{1}{16}$
B. $\frac{16}{25}$
C. $\frac{1}{645}$
D. $\frac{1}{25}$

8. A bag contains 7 white and 9 blue balls. If two balls are drawn at random, what is the chance that one ball is white and the other is blue?

- A. $\frac{16}{63}$
B. $\frac{1}{8}$
C. $\frac{7}{20}$
D. $\frac{21}{40}$

9. In a survey of 70 businessmen, it is found that 20 of them own only scooters, 10 own only bikes and 15 own only cars. 5 businessmen own all the three. Find the probability that a businessmen selected at random possess only two items.

- A. $1/7$
B. $2/7$
C. $3/7$
D. $4/7$

10. A bag contains 3 different white, 4 different black and 2 different red balls. Two balls are chosen at random. What is the probability that (a) one white and one red ball is chosen, (b) no white ball is chosen, (c) exactly one black ball is chosen?

- A. $1/6, 5/36, 4/9$
B. $5/6, 21/36, 5/9$
C. $1/6, 5/12, 5/9$
D. None of these

11. The coefficients b and c of the equation $x^2 + bx + c = 0$ are determined by throwing an ordinary die. The probability that the equation has equal roots is
- A. $1/18$
 - B. $13/18$
 - C. $5/18$
 - D. $1/9$
12. Six letters are to be placed in six addressed envelopes. If the letters are placed at random into the envelopes, the probability that all of them are placed in the correct envelopes is
- A. 1
 - B. 0
 - C. $1/6!$
 - D. $5/6!$
13. The probability that a teacher will give an unannounced test during any class meeting is $\frac{1}{5}$ if a student is absent twice, then the probability that the student will miss at least one Test is
- A. $\frac{4}{5}$
 - B. $\frac{2}{5}$
 - C. $\frac{7}{75}$
 - D. $\frac{9}{25}$

14. The probability that a man lives after 10 years is $\frac{1}{4}$ and that his wife is alive after 10 years is $\frac{1}{3}$. The probability that neither of them is alive after 10 years is
- A. $\frac{1}{2}$
B. $\frac{1}{12}$
C. $\frac{7}{12}$
D. $\frac{3}{4}$
15. If the letters of the word "MISSISSIPPI" are written down at random in a row, the probability that no two 'S' occur together is
- A. $\frac{5}{33}$
B. $\frac{7}{33}$
C. $\frac{6}{31}$
D. None of these
16. In a box there are 2 red, 3 black and 4 white balls. Out of these, three balls are drawn together. The probability of the balls being drawn of the same colour is
- A. $\frac{1}{84}$
B. $\frac{1}{21}$
C. $\frac{5}{84}$
D. None of these

17. The chances of winning of two race horses are $\frac{1}{3}$ and $\frac{1}{6}$ respectively. What is the probability that at least one will win, when the horses are running in different races?
- A. $\frac{1}{2}$
B. $\frac{1}{18}$
C. $\frac{4}{9}$
D. None of these
18. Six guys are waiting for an interview in a conference hall. There are 8 rooms in the office in which the interview is to be held. The probability that each of them enters a different room for the interview is
- A. $\frac{P(9,6)}{6^6}$
B. $\frac{P(8,6)}{8^6}$
C. $\frac{8^6}{9^6}$
D. None of these
19. The probabilities of the three doctors A, B and C getting success in an operation are 0.5, 0.2 and 0.3 respectively. Find the probability that the operation is not successful.
- A. 0.78
B. 0.64
C. 0.56
D. 0.28
20. If a card is drawn at random from a packet of 100 cards numbered 1 to 100, the probability of drawing a number on the card that is a cube is
- A. $\frac{3}{100}$
B. $\frac{1}{25}$
C. $\frac{9}{100}$
D. $\frac{1}{10}$