PROBABILITY

1. A natural number is selected randomly and is divided by 9. What is the probability that the remainder is not an even number ?
   (a) 5/8 (b) 4/9 (c) 1/2
   (d) 3/8 (e) None of these
2. In a class there are 8 boys and 5 girls. In how many ways they can sit in a row so that no two girls sit together ?
   एक कक्षा में 8 लडके तथा 5 लडकियां हैं। कितने तरीकों से वे एक पंक्ति में बैठें कि दो लडकियां एक साथ न बैठें?
   (a) $\frac{9! \times 8!}{5!}$ (b) $\frac{9! \times 8!}{4!}$
   (c) $\frac{9!}{5!}$ (d) $\frac{8!}{5!}$ (e) $\frac{8!}{4!}$
3. A bag contains 5 red, 4 white, 3 black balls. 3 balls are drawn randomly. The probability of the balls drawn contains no red ball is
   एक बैग में 5 लाल, 4 सफेद, 4 काली गेंद हैं। 3 गैंदे बेतरतीब तरीकों से रखी गई हैं। गेंदो की प्रायिकता क्या होगी कि उसमें लाल रंग न हों
   (a) 24/91 (c) 12/65
   (c) 7/44 (d) 33/91
   (e) 7/35
4. What is the probability that a number selected from the number 1,2,3,4, ... 23, 24, 25 is a prime number, when each of the given number is equally likely to be selected ?
   उस संख्या की प्रायिकता क्या होगी जो
   (a) 1/5 (b) 7/25
   (c) 11/25 (d) 9/25
   (e) None of these
5. Abhinav can hit a target 4 times in 5 shots; Limba, 3 times in 4 shots; and Kalpana twice in 3 shots. They fire one each. What is the probability that all three shots hit the target ?
   (a) 3/5 (b) 1/2
   (c) 8/15 (d) 2/5
   (e) None of these
6. In a function 18 players are there, out of them 7 are cricketers, 6 are footballers, and 5 are boxers. In how many ways they can sit in a row so that all players of same sports sit together ?
   (a)3!7!6!5! (b) 7!6!5!
   (c) 3!18! (d) 17!
   (e) None
7. What is the probability of getting a sum '9' from two throws of a dice?
   (a)1/6 (b) 1/8 (c) 1/9 (d) 1/12 (e) None of these
8. Two dice are tossed. Probability that total score is in prime number is
   (a) 1/6 (b) 5/12 (c) 1/2 (d) 7/9 (e) None
9. The letters of the word 'DIRECTOR' are arranged in different ways randomly. What is the chance that the vowels occupy the even places ?
   (a) 1/14 (b) 1/140 (c) 2/7 (d) 1/28 (e) None
10. At an election, three wards of a town are to be canvassed by 4,5 and 8 men respectively. If there are 20 men, in how many ways can they be allotted to the different wards ?
    (a) ${}^{20}C_4 \times {}^{20}C_5 \times {}^{20}C_8$
    (b) ${}^{20}C_4 \times {}^{24}C_5 \times {}^{32}C_5$
    (c) ${}^{20}C_4 \times {}^{16}C_5 \times {}^{11}C_8$
    (d) ${}^{20}C_{17}$
    (e) None
11. If the letters of the word 'NOKIA' be arranged randomly, what is the probability that all vowels are not together ?
    (a) 7/10 (b) 3/10 (c) 19/20 (d) 1/5 (e) None of these
12. In a lottery, there are 5 prizes and 10 banks in tickets. A ticket is drawn at random. What is the probability of getting a prize ?
    (a)1/7(b) 2/7 (c) 1/3 (d) 2/3 (e) None
13. In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that one girl and two boys are selected is
    (a)4/25 (b) 25/117 (c) 1/50 (d) 21/46 (e) None
14. In a class there are 8 boys and 5 girls. In how many ways they can sit in a row so that no two girls sit together /
    (a) 9!×8!/5! (b) 9! ×8!/4!
    (c) 9!/5! (d) 8!/5!
    (e) 8!/4!
15. A bag contains 5 red, 4 white, 3 black balls. 3 balls are drawn randomly. The probability of the balls drawn contains no red ball is
    (a) 24/91 (b) 12/65 (c) 7/44 (d) 33/91 (d) 7/35
16. In how many ways can we arrange letters of the word 'MATTER' ?
    कितने तरीकों से हम शब्द MATTER को व्यवस्थित कर सकते हैं
    (a) 73 (b) 144 (c) 360 (d) 720 (e) None
17. Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even ?
    (a) 1/2(b) 3/4 (c) 3/8 (d) 5/16 (e) None of these
18. In a shelf, there are 8 Hindi, 7 English and 6 Urdu books. One book is picked up randomly. What is the probability that it is neither in Hindi nor in Urdu?
    (a) 7/21 (b) 13/21 (c) 17/21 (d) 19/21 (e) 23/47
19. 12 persons are seated at a round table. What is the probability that 3 particular persons sit together?
    (a) 2/9 (b) 4/165 (c) 3/55 (d) 9/185 (e) 4/55
20. In a class of 16 students 9 are boys. How many ways they can sit in a row so that no two of girls sit together?
    (a) $\frac{16!}{7!} \times 9!$ (b) $\frac{15!}{9!} \times 7!$ (c) $\frac{10!}{3!} \times 9!$ (d) $\frac{9!}{3!} \times 7!$ (e) $\frac{3!}{10!} \times 9!$
21. A bag contains 7 white, 6 red and 8 green balls. 2 balls are drawn from the box at random. What is the probability that both balls are of the same colour ?
    (a) 19/66 (b0 32/105 (c) 41/411 (d) 5/126 (e) None of these
22. In a class there are 5 girls and 7 boys. In how many ways can 5 students be chosen such that every time there is exactly one girl ?
    (a) 175 (b) 224 (c) 256 (c)63 (d) None of these
23. The probability of A's winning a ame of chess against B is 1/3. What is the probability that A will win at least once in a total of 3 games ?
    (a) 19/23 (b) 19/25 (c) 19/27 (d) 19/29 (e) None