PROBABILITY

Direction: Read the following questions carefully and choose the right answer.

1. **The names of 5 students from section A, 6 students from section B and 7 students from section C were selected. The age of all the 18 students was different. Again, one name was selected from them and it was found that it was of section B. What was the probability that it was the youngest student of the section B?**

A. $\frac{}{18}$ B. $\frac{}{15}$ C. $\frac{}{6}$ D. $\frac{}{12}$ E. None of these

2. **A bag contains 35 balls of three different colors viz. red, orange and pink. The ratio of red balls to orange balls is 3 : 2, respectively and probability of choosing a pink ball is 3/7. If two balls are picked from the bag, then what is the probability that one ball is orange and one ball is pink?**

A. $\frac{24}{119}$ B. $\frac{60}{119}$ C. $\frac{96}{595}$ D. $\frac{3}{17}$ E. None of these

3. **There are total 18 balls in a bag. Out of them 6 are red in colour, 4 are green in colour and 8 are blue in colour. If Vishal picks three balls randomly from the bag, then what will be the probability that all the three balls are not of the same colour?**

A. $\frac{95}{102}$ B. $\frac{19}{23}$ C. $\frac{21}{26}$ D. $\frac{46}{51}$ E. $\frac{9}{}$

4. **Ram and Shyam are playing chess together. Ram knows the two rows in which he has to put all the pieces in but he doesn't know how to place them. What is the probability that he puts all the pieces in the right place?**

A. $\frac{8!}{16!}$ B. $\frac{8!}{(2x15!)}$ C. $\frac{8!}{15!}$ D. $\frac{(2\ x\ 8!)}{16!}$ E. None of these

5. **A child paints the six faces of a cube with six different colors red, blue, pink, yellow, green and orange. What is the probability that red, pink and blue faces share a common corner?**

A. $\frac{}{6}$ B. $\frac{}{20}$ C. $\frac{}{10}$ D. $\frac{}{5}$ E. None of these

6. **Three children took part in racing competition in their school with their respective probabilities to reach the finishing point being 1/3, 1/5 and 1/4 respectively. What is the probability that at least one of them will finish the race?**

A. $\frac{2}{5}$ B. $\frac{3}{5}$ C. $\frac{}{5}$ D. $\frac{}{4}$ E. $\frac{3}{4}$

7. **A tiffin box contains x pink and (x – 4) yellow toffees and another tiffin box contains (x – 1) yellow and (x – 3) pink toffees. If one of the tiffin box is selected at random and 2**

toffees are drawn at random from the box thus selected, the probability that the two toffees are of different colours is 67/132. Find the total number of toffees in the first tiffin box?

A. 8 B. 12 C. 10 D. 16 E. 14

8. **Aarti gave her project assignment to a shopkeeper for binding. There were 19 pages including a cover page, 12 pages of theory and 6 pages of drawings. She told the shopkeeper that the theory pages are in a particular order and the drawing pages can be arranged anywhere provided they are together. If the cover page is always kept first what is the probability that rest of the pages are arranged as per requirement?**

A. ${}^{12}C_1 \times 6!/18!$ B. ${}^{13}C_1 \times 6!/19!$ C. $13 \times 40/17!$ D. $13! \times 6!/18!$ E. None of these

9. **If the letters of the word "CRACKJACK" are rearranged in a random manner, what is the probability that vowels are neither together nor at the ends?**

A. $\frac{}{18}$ B. $\frac{}{2}$ C. $\frac{7}{36}$ D. $\frac{5}{12}$ E. None of these

10. **A basketball game is played between team Blue and Red. There are a total of 9 players in each team and 5 will play in the game. Ankit is in team blue and Vaibhav is in team Red. What is the probability that at least one of ankit or vaibhav is in playing five?**

A. $\frac{125}{153}$ B. $\frac{65}{81}$ C. $\frac{56}{81}$ D. $\frac{72}{81}$ E. None of these

11. **Three identical dices are rolled together, what is the probability that the product of all three outcomes on the three dices will be even?**

A. $\frac{5}{18}$ B. $\frac{3}{4}$ C. $\frac{7}{8}$ D. $\frac{}{8}$ E. None of these

12. **A goldsmith has a bag, which contains some colourful stones. It contains 4 White and 8 Black stones. There is another bag which contains 5 White and 5 Black stones. One stone is to drawn from either of the two bags. What is the probability of drawing a White stone?**

A. $\frac{7}{13}$ B. $\frac{8}{13}$ C. $\frac{5}{12}$ D. $\frac{}{12}$ E. None of these

13. **A bag has 9 balls – each of them is either white, yellow or Black. In every trial, one ball is drawn and put back in the bag before the next trial. The probability of getting a white ball in two consecutive trials is 1/81. The probability of getting two yellow balls in two consecutive trials is 4/9. What is the probability of getting balls of three different colours in three consecutive trials?**

A. $\frac{4}{81}$ B. $\frac{4}{243}$ C. $\frac{4}{9}$ D. $\frac{8}{27}$ E. None of these

14. **Two cards are drawn simultaneously from a well shuffled pack of cards. Find the probability of both being Honor cards.**

A. $\frac{2}{221}$ B. $\frac{29}{221}$ C. $\frac{20}{221}$ D. $\frac{23}{663}$ E. None of these

15. **In a box there are 5 blue, x green, (x+2) red and 6 black balloons. Probability of choosing one green balloon from the given box is 1/3. What is the sum of the number of green, red and black balloons?**

A. 24 B. 34 C. 30 D. 28 E. 32

16. **When two dice are thrown simultaneously, what is the probability that the sum of the scores on the dice is less than or equal to 4?**

A. $\frac{}{6}$ B. $\frac{}{18}$ C. $\frac{5}{36}$ D. $\frac{}{12}$ E. $\frac{5}{18}$

17. **Amit and Anit rolled a dice with three faces colored with red and three faces colored with yellow until one of them gets red and loses the game. Find the probability of Anit losing the game if Amit starts the game?**

A. $\frac{2}{7}$ B. $\frac{}{12}$ C. $\frac{}{3}$ D. $\frac{3}{8}$ E. Can't be determined

18. **An eight face biased die is rolled three times. Die is biased in such a way that the probability of getting any number is proportional to square of that number. What is the probability of getting first three even numbers consecutively?**

A. $\frac{4}{14739}$ B. $\frac{7}{14739}$ C. $\frac{3}{3468}$ D. $\frac{5}{58956}$ E. None of these

19. **A box contains certain number of balls of Black, White and Pink Colors in the ratio 6 : 9 : 20. If two balls are drawn randomly and probability of getting both the balls as Pink is 52/161, then find the number of Black Balls.**

A.12 B. 18 C. 24 D. 6 E. Can't be determined

20. **In a school, class1 had 12 football players, class2 had 15 football players, class 3 had 8 football players and class 4 had 5 football players. If one single football player is to be selected for interschool football match then what is the probability that the player is either from class 2 or class 3?**

A. $\frac{}{2}$ B. $\frac{}{20}$ C. $\frac{23}{40}$ D. $\frac{3}{5}$ E. None of these

21. **In a rummy game, 3 cards are drawn from a pack of 52 cards. What is the probability that all the three cards are of red colour?**

A. $\frac{3}{52}$ B. $\frac{3}{26}$ C. $\frac{2}{17}$ D. $\frac{2}{13}$ E. None of these

22. Five boys and some number of girls are sitting in a row. The probability that all girls are sitting together is 1/42. What is the total number of girls in the group?

A. 2 B. 5 C. 6 D. 7 E. None of these

23. From group of 3 boys and x girls, one student is selected at random for Interschool quiz competition. The probability that the selected student is girl is 4/7. If three students are selected at random then what is the probability that two are girls and one is boy?

A. $\frac{17}{35}$ B. $\frac{}{7}$ C. $\frac{18}{35}$ D. $\frac{3}{5}$ E. None of these

24. In a forest, there are some venomous snakes and some non-venomous snakes. An ayurvedic company executive goes to the forest to catch some venomous snakes then the probability that one venomous snake is caught is 2/17. If in the forest there are total 153 snakes, then how many non – venomous snakes are there in the forest?

A. 134 B. 133 C. 135 D. 149 E. None of these

25. Two friends Ram and Sham appear in an interview . There is 25% probability that Ram can be selected and 20% probability that Sham can be selected , then what is the probability that none of them get selected?

A.85% B. 40% C. 62.5% D. 60% E. None of these

26. If four coins are tossed together, what is the probability of at least getting 2 heads?

A. $\frac{13}{16}$ B. $\frac{}{16}$ C. $\frac{9}{16}$ D. $\frac{15}{16}$ E. None of these

27. Find the probability that a two-digit number, chosen at random, is a multiple of 4 given that it is also a multiple of 6.

A. $\frac{8}{15}$ B. $\frac{9}{13}$ C. $\frac{7}{14}$ D. $\frac{6}{13}$ E. None of these

28. There are 200 balls (numbered 1 to 200) in a box. Find the probability of choosing a ball which bears either perfect cube or perfect square and the unit digit is either multiple of 3 or multiple of 2?

A. $\frac{}{200}$ B. $\frac{3}{50}$ C. $\frac{17}{200}$ D. $\frac{13}{200}$ E. None of these

29. A bag contains 'x' red, '2x – 1' blue and '3x – 2' green balls. Two balls are randomly drawn from the bag and the probability that a blue ball and a green ball are drawn is 1/3. Find the total number of balls in the bag.

A. 27 B. 33 C. 39 D. 45 E. Can't be determined

30. A bag contains certain number of green and pink balls. The ratio of the number of green and pink balls in the bag is 2: 3 respectively. Two balls are randomly drawn from the bag and the probability that both the balls are pink is 6/17. Find the total number of balls in the bag.

A. 30 B. 40 C. 35 D. 55 E. None of these

31. In a class of 25 students comprising 15 boys, what is the probability that exactly one of the three class representatives is a girl?

A. $\frac{19}{43}$ B. $\frac{20}{41}$ C. $\frac{23}{46}$ D. $\frac{21}{46}$ E. None of these

32. If two dices are rolled, what is the probability that a number greater than 3 comes on at least one dice?

A. $\frac{}{4}$ B. $\frac{}{2}$ C. $\frac{3}{4}$ D. $\frac{7}{12}$ E. None of these

33. In a bag there are 4 green,"x" red and "x+2" blue pens. If two pens are drawn at random one after the other, the probability that first pen is blue and second pen is red is 5/44. What is the value of x?

A. 6 B. 5 C. 3 D. 7 E. None of these

34. If the letters of the word "CONJUNCTION" are arranged in a circle what is the probability that no two vowels are together?

A. $\frac{7}{66}$ B. $\frac{7}{33}$ C. $\frac{14}{33}$ D. $\frac{16}{77}$ E. None of these

35. A courier service guy has to deliver a parcel to a particular flat in an apartment. There are five floors in the apartment and a ground floor. There are twelve flats on each floor and ground floor is for parking.

The flats are numbered according to the floor, the flats on the first floor are numbered 101,102 ….112, similarly on the second floor, flats are numbered as 201,202…….212, and this is repeated on each floor. The courier guy forgot the number of the flat but remembers that it was not on second or third floor and digit "1" was there exactly once in the flat number. What is the probability that he delivered the courier in the correct flat?

A. $\frac{}{16}$ B. $\frac{}{24}$ C. $\frac{}{14}$ D. $\frac{}{22}$ E. None of these

36. There are two round tables with seven and five chairs. What is the probability of seating twelve people on these tables such that two particular persons don't sit on the same table?

A. $\frac{}{66}$ B. $\frac{35}{132}$ C. $\frac{35}{66}$ D. $\frac{25}{66}$ E. None of these

37. There is a dart board with five concentric circles of radius 4cm, 6cm, 10cm, 14cm and 24cm. What is the probability that a dart thrown will hit the board between smallest and second largest circle?

A. $\frac{9}{19}$ B. $\frac{49}{144}$ C. $\frac{83}{144}$ D. $\frac{5}{16}$ E. None of these

38. If three hunters A, B and C can hit targets with probabilities 0.5, 0.4 and 0.1 respectively, what is the probability that hunter C kills a deer after both A and B have fired at it once, assuming that it only takes a hunter one shot to kill the deer? (A hunter hits or misses independent of what the other hunters have done.)

A. 0.03 B. 0.01 C. 0.1 D. 0.02 E. None of these

39. A bag contains 7 red, 5 green and 6 blue balls. Three balls are drawn one by one at random without replacement. Find the probability that the first ball is red, second ball is green and third ball is blue?

A. $\frac{31}{512}$ B. $\frac{35}{816}$ C. $\frac{33}{713}$ D. $\frac{34}{812}$ E. None of these

40. Two dice are thrown simultaneously. Find the probability that sum of the numbers on both the dice is a prime number.

A. $\frac{}{4}$ B. $\frac{5}{12}$ C. $\frac{7}{12}$ D. $\frac{}{12}$ E. None of these

41. A man and his wife appear in an interview. The probability of husband's selection is 1/7 and the probability of wife's selection is 1/5. What is the probability that only one of them is selected?

A. $\frac{2}{7}$ B. $\frac{}{25}$ C. $\frac{}{3}$ D. $\frac{}{35}$ E. $\frac{}{49}$

42. A bag contains 2 red, 5 green and 4 yellow balls. 4 balls are drawn at random, find the probability that out of four balls at least 3 balls are yellow.

A. $\frac{19}{330}$ B. $\frac{4}{165}$ C. $\frac{29}{330}$ D. $\frac{8}{165}$ E. None of these

43. There are 6 Green, 5 Red and 3 white balls in a bag. If 3 balls are drawn randomly what is the probability that no ball is Red?

A. $\frac{6}{13}$ B. $\frac{9}{17}$ C. $\frac{3}{13}$ D. $\frac{5}{14}$ E. None of these

44. A bag contains 5 green, 7 yellow and 4 red balls. Three balls are drawn at random, find the probability that all the balls are of same colour.

A. $\frac{5}{46}$ B. $\frac{9}{70}$ C. $\frac{7}{78}$ D. $\frac{7}{80}$ E. None of these

45. A bag contains 'x' red, 'x + 3' blue and '2x – 2' green balls. Two balls are randomly drawn from the bag and the probability that both the balls are green is 3/20. Find the total number of balls in the bag.

A. 27 B. 25 C. 23 D. 21 E. 20

46. In a class of 80 students, a student is to be selected for becoming monitor. If 20 % of total students belongs to ST category, 15 % belongs to SC category, 30 % belongs to OBC category and remaining belongs to General category and in each category the ratio of boys and girls is 1 : 1. What is the probability that the monitor selected is a girl who belongs to either ST or OBC category ?

A. $\frac{3}{5}$ B. $\frac{}{4}$ C. $\frac{3}{4}$ D. $\frac{3}{8}$ E. None of these

47. A packet contains some red pens, blue pens and black pens such that the probability of picking a red pen is 3/13 and probability of picking a black pen is 1/3. If no. of blue pens is 17 and if all the pens are numbered starting from 1,2,3,….. and so on , then what is the probability of getting one pen numbered as multiple of 5 or 8 ?

A. $\frac{2}{3}$ B. $\frac{3}{52}$ C. $\frac{3}{13}$ D. $\frac{}{39}$ E. $\frac{10}{39}$

48. A box contains 50 marbles of different colours i.e. purple, pink and blue. Find the number of pink marbles in the box, if probability of picking up a purple marble is 3/5 and that of either a purple or a pink marble is 4/5.

A. 6 B. 8 C. 5 D. 10 E. None of these

49. In bag A there are 5 red balls, X green balls and 7 yellow balls. Probability of drawing one green ball from bag A is 2/5. In bag B there are (X – 3) red balls, (X – 4) green balls and 6 yellow balls. 2 balls are drawn from bag B. Find the probability that both the balls are red in colour?

A. $\frac{3}{}$ B. $\frac{4}{21}$ C. $\frac{5}{21}$ D. $\frac{2}{23}$ E. None of these

50. A bag contains 'x' red, 'x+5' blue and 'x + 7' grey balls. If two balls are randomly drawn from the bag and the probability that both the balls are of same colour is 148/435, then find the total number of balls in the bag.

A. 36 balls B. 64 balls C. 58 balls D. 30 balls E. 29 balls

ANSWERS

1	C	**11**	C	**21**	C	**31**	D	**41**	A
2	A	**12**	C	**22**	B	**32**	C	**42**	C
3	D	**13**	E	**23**	C	**33**	C	**43**	C
4	B	**14**	C	**24**	C	**34**	A	**44**	D
5	D	**15**	B	**25**	D	**35**	C	**45**	B
6	B	**16**	A	**26**	B	**36**	C	**46**	B
7	B	**17**	C	**27**	A	**37**	D	**47**	D
8	C	**18**	A	**28**	A	**38**	A	**48**	D
9	D	**19**	A	**29**	E	**39**	B	**49**	E
10	B	**20**	C	**30**	C	**40**	B	**50**	D