CHAPTER-16

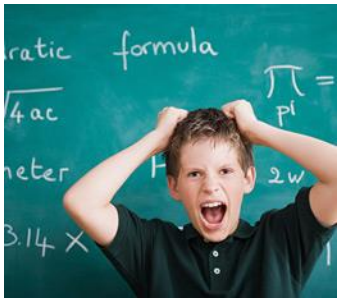
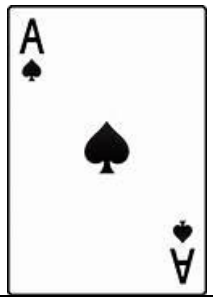
PROBABILITY

01 MARK TYPE QUESTIONS

Q. NO	QUESTION	MARK
1.	A die is rolled. Let E be the event, die shows 6 and F be the event 'die shows an even number', then _____ (a) $E \cap F = \emptyset$ (b) $E \cap F \neq \emptyset$ (c) $E \cup F = \emptyset$ (d) none of these	**1**
2.	A bag contains 5 brown and 4 white coloured socks. Ram pulls out two socks. probability that both the socks are of the same colour is _____ (a) $\frac{9}{20}$ (b) $\frac{2}{9}$ (c) $\frac{3}{20}$ (d) $\frac{4}{9}$	**1**
3.	Two unbiased dice are thrown. The probability that neither a doublet nor a total of 10 will appear is _____ (a) $\frac{3}{5}$ (b) $\frac{2}{7}$ (c) $\frac{5}{7}$ (d) $\frac{7}{9}$	**1**
4.	The probability that in a random arrangement of the letters of the word SCHOOL the two 'O' are together is _____ (a) $\frac{1}{3}$ (b) $\frac{1}{2}$ (c) $\frac{6}{7}$ (d) none of these	**1**
5.	If $P(A) = 0.45, P(B) = 0.20, P(A \cap B) = 0.15$, then $P(\bar{A} \cap \bar{B})$ is _____ (a) 0.38 (b) 0.39 (c) 0.40 (d) 0.50	**1**
6.	If A and B are events such that $P(A \cup B) = \frac{3}{4}$, $P(A \cap B) = \frac{1}{4}$, $P(\bar{A}) = \frac{2}{3}$, then $P(\bar{A} \cap B)$ is _____ (a) $\frac{5}{12}$ (b) $\frac{3}{8}$ (c) $\frac{5}{8}$ (d) $\frac{1}{4}$	**1**
7.	Three squares of chess board are selected at random. The probability of getting 2 squares of one colour and other of a different colour is _____ (a) $\frac{3}{8}$ (b) $\frac{3}{32}$ (c) $\frac{16}{21}$ (d) $\frac{8}{21}$	**1**
8.	If A, B ,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 _____ (a) $\frac{1}{11}$ (b)$\frac{2}{11}$ (c) $\frac{5}{11}$ (d) $\frac{6}{11}$	**1**
9.	If E and F are two events such that $P(E) = \frac{1}{4} P(F) = \frac{1}{2}$ and $P(E \cap F) = \frac{1}{8}$, then$P(A \cap B)$ is _____ (a) $\frac{2}{5}$ (b) $\frac{1}{8}$ (c) $\frac{5}{8}$ (d) none of these	**1**
10.	If a two digit number is formed with the digits 2,3,5,8,9 without repetition of digits, then the	**1**

	probability that the digits used 3 and 5 is _____ (a) $\frac{1}{10}$ (b) $\frac{2}{11}$ (c) $\frac{5}{11}$ (d) $\frac{6}{11}$	
11.	A bag contains 5 brown and 4 white socks. Ram pulls out two socks. What is the probability that both the socks are of the same colour? (a) $\frac{4}{5}$ (b) $\frac{4}{9}$ (c) $\frac{4}{3}$ (d) $\frac{4}{7}$	1
12.	What is the probability of selecting a vowel in the word “PROBABILITY”? (a) $\frac{2}{11}$ (b) $\frac{3}{11}$ (c) $\frac{4}{11}$ (d) $\frac{5}{11}$	1
13.	If P (A) = 0.6, P(B) =0.4 and P (A ∩B) = 0, then the events are	1
14.	If A and B are two events such that P (A) = 0.3, P(A∪B) =0.8. If A and B are independent events ,then P(B) is (a) $\frac{3}{7}$ (b) $\frac{4}{7}$ (c) $\frac{5}{7}$ (d) $\frac{6}{7}$	1
15.	If $\frac{2}{11}$ is the probability of an event then, probability of the event “not A” is	1
16.	20 cards are numbered from 1 to 20. If one card is drawn at random, what is the probability that the number on the card is a prime number? A. ⅕ B. ⅖ C. ⅗ D. 5	1
17.	Three houses are available in a locality. Three persons apply for the houses. Each applies for one house without consulting others. The probability that all the three apply for the same house is (a) $\frac{1}{9}$ (b) $\frac{2}{9}$ (c) $\frac{7}{9}$ (d) $\frac{8}{9}$	1
18.	From a well shuffled pack of 52 cards, find the probability of getting not a king	1
19.	In a simultaneous toss of two coins, the probability of getting no tail is: (a) 2 (b) 0.5. © 0.2 (d)0.25	1
20.	In a non-leap year, the probability of having 53 Tuesdays or 53 Wednesdays is A. 1/7 B. 2/7 C. 3/7 D. none of these	1
21.	Maria and Jasmine are playing with dice in their indoor games period. Both of them make their own rules while playing. Today Maria can win if she obtain an odd number on one die	1

	and a multiple of 3 on another die. What is the probability of winning of Jasmine. (a) 25/36 (b) 11/36 (c) 13/36 (d) 23/36 	
22.	Sunil and Mukesh are planning to go for a dinner party. But they can have a dinner only on Friday or Sunday as these are non-working days in Gale Market. Now calculate the probability that they can have their dinner at Friday or Sunday in the month of April. (a) 1/3 (b) 4/15 (c) 2/15 (d) 3/10 	1
23.	After playing with colours of Holi, Four friends Amit, Sumit, Rahmit & Navneet started playing with cards. At an instant of time, Sumit have these cards as shown in figure. What is the probability that Sumit will throw an odd numbered card. (a) 2/3 (b) 7/9 (c) 4/9 (d) 5/9 	1
24.	A single letter is selected at random from the word 'Probability'. What are the odds in favour of selection of a vowel? (a) 4 : 11 (b) 4 : 7 (c) 7 : 4 (d) 7 : 11 	1
25.	From a set of 17 cards numbered 1, 2, 3, 4, ……,17, Shivam choose a card at random, What are the chance that card selected by Shivam bears a numbers that is divisible by 3 or 7? (a) 7/17 (b) 10/17 (c) 3/17 (d) 6/17 	1
26.	Whist is a game of cards played by two pairs of players with a pack of 52 cards. The cards are dealt out equally. In a hand at whist, the specified player has 13 cards including 4 kings. In a hand of whist, what is the chance that the four kings are held by a specified player? (a) 753 / 4165 (b) 337 / 4165 (c) 11 / 4165 (d) 568 / 4165 	1

27.	In a given race; the odds in favour of four horses A, B, C and D are 1:3 , 1:4 , 1:5 and 1:6 respectively. Assuming that a dead heat is impossible, find the chance that one of them wins the race. (a) 118/360 (b) 319/420 (c) 127/360 (d) 358/420 	1
28.	Shankob likes mathematics very much but when he solves word problems or real life application based questions, he generally stuck off. One day, his maths teacher asked him to solve a question and tick the correct answer. $P(A \cup B) = 0.65$, $P(A \cap B) = 0.15$, Find $P(\bar{A}) + P(\bar{B})$ Now, what will be the correct option for Shankob? (a) 0.65 (b) 0.15 (c) 0.80 (d) 1.2 	1
29.	A card is drawn from a well-shuffled pack of playing cards. What is the probability that it is either a spade or an ace or both? (a) 13/52 (b) 4/52 (c) 1/52 (d) 16/52 	1
30.	For two events A and B, being mutually exclusive exhaustive, which of the following option is wrong. (a) P$(A \cap B) = \emptyset$ (b) P(A) + P(B) = 0 (c) $P(A \cup B) = 1$ (d) P(A) = 1 –P(B) 	1
31.	If A,B,C are three mutually exclusive events of an experiment such that 3P(A)=2P(B)=P(C),then P(A) is equal to (a) 1/11 (b) 2/11 (c) 5/11 (d) 6/11	1
32.	Without repetition of the numbers, four digit numbers are formed with the numbers 0,2,3,5.The probability of such a number divisible by 5 is (a)1/5 (b) 4/5 (c) 1/30 (d) 5/9	1
33.	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?	1
34.	In a leap year the probability of having 53 Sundays and Mondays is	1

	(a) 2/7 (b) 3/7 (c) 4/7 (d) 5/7	
35.	Three squares of a chess board are selected at random. The probability of getting 2 squares of one colour and other of different colour is (a) 16/21 (b) 8/21 (c) 3/32 (d) 3/8	1
36.	If A and B are any two events having P(AUB)=1/2 and P(A')=2/3,then probability of A'∩ B is (a) ½ (b) 2/3 (c) 1/6 (d)1/3	1
37.	Three of the six vertices of a regular hexagon are chosen at random. The probability that the triangle with these vertices equilateral is (a) 3/10 (b) 3/20 (c) 1/20 (d) 1/10	1
38.	If A and B are two events, then the probability that at least one of them occurs is (a) P(A)+P(B)-2P(A∩ B) (b) P(A)+P(B)-P(A∩ B (c) P(A)+P(B)-2P(A∩ B (d) P(A)+P(B)+2P(A∩ B	1
39.	A single letter is selected at random from the word "PROBABILITY". The probability that is a vowel, is (a) 1/3 (b) 4/11 (c)2/11 (d) 3/11	1
40.	Seven persons are to be seated in a row. The probability that two particular persons at next to each other, is (a) 1/3 (b)1/6 (c) 2/7 (d)1/2	1
41.	Three of the Six Vertices of a regular hexagon are chosen at random.The probability that the triangle with three vertices is equilateral is: a. 1/2 b. 1/5 c. 1/10 d. 1/20	1
42.	In throwing of two dice, the probability of getting a sum of multiple of 4 is: a. 1/3 b. 1/2 c. 1/9 d. ¼	1
43.	A committee of five is to be chosen from a group of 9 people. The Probability that a certain married couple will either serve together or not at all is: a. 4/9 b. 1/2 c. 3/4 d. 4/5	1
44.	4 person draws out two balls successively from a bag containing, 6 red ball and 4 white balls.	1

	The probability that at least one ball of them is red is: a. 78/90 b. 30/90 c. 48/90 d. 12/90	
45.	4 point is selected at random from the interior of a circle. The probability that the point is close to the centre, then the boundary of the circle is: a. 1/2 b. 2/3 c. 3/4 d. ¼	1
46.	A and B are two events such that P ($\overline{A\ U\ B}$) = 1/6, P (A ∩ B) = 1/4, and P ($\bar{A}$) = 1/4, then events A and B are: a. Mutually exclusive and independent b. Independent but not equally likely c. Equally likely but not independent d. Equally likely and mutually exclusive	1
47.	A ticket is drawn at random from a bag containing tickets numbered from 1 to 30. The probability that the selected ticket has a number which is a multiple of 5 is a)3/5 b)1/5 c)1/3 d)4/5	1
48.	If E_1, E_2, E_3 and E_4 are four events related to a random experiment that cover whole sample space and none of the two can occur at the same time, then $P(E_1) + P(E_2) + P(E_3) + P(E_4)$ is a) 0 b) cannot be determined c) 1 d) 3	1
49.	The letters of the word VOWEL are placed at random in a row. The probability of getting a vowel is a) 3/5 b) 4/5 c) 2/5 d) 1/5	1
50.	Which of the following can be the probability of an event? a) -0.15 b) 3/2 c) 3/5 d) 1.005	1
51.	Pick correct option given below: (a) Both Assertion (A) and Reason (R) are the true and Reason (R) is a correct explanation of Assertion (A). (b) Both Assertion (A) and Reason (R) are the true but Reason (R) is not a correct explanation of Assertion (A). (c) Assertion (A) is true and Reason (R) is false. (d) Assertion (A) is false and Reason (R) is true. **Assertion:** Probability of getting a prime number greater than 5 on a single throw of die is 1/6. **Reason**: Probability of sure event is always 1	1

52.	Pick correct option given below: (a) Both Assertion (A) and Reason (R) are the true and Reason (R) is a correct explanation of Assertion (A). (b) Both Assertion (A) and Reason (R) are the true but Reason (R) is not a correct explanation of Assertion (A). (c) Assertion (A) is true and Reason (R) is false. (d) Assertion (A) is false and Reason (R) is true. **Assertion:** Probability of drawing a face card is more than probability of drawing a red card. **Reason**: there are 52 cards of which 26 are red cards and 12 are face cards.	1
53.	There are 10 balls in a bucket numbered as follows:1,1,2,3,4,4,4,5,6,and 6.A single ball is picked randomly, then the probability of drawing a ball numbered 4 is : a) 1/5 b)3/10 c)2/5 d) None of these	1
54.	In a lottery there are 13 prizes and 117 blanks. The probability of not winning a prize is a)1/10 b)9/10 c)104/117 d) 17/117	1
55.	A coin is tossed 3 times. The probability of getting not more than 2 heads is: a) 1/8 b) 7/8 c) 1/16 d) 3/8	1
56.	Two dice are thrown together. The probability of getting the difference of numbers on their upper faces is equal to 3 is a) 1/9 b) 2/9 c) 1/6 d) 1/12	1

ANSWERS:

Q. NO	ANSWER	MARKS
1.	b	1
2.	d	1
3.	d	1
4.	a	1
5.	d	1
6.	a	1
7.	c	1
8.	b	1
9.	c	1
10.	a	1
11.	(b) $\frac{4}{9}$	1
12.	(c) $\frac{4}{11}$	1
13.	Mutually Exclusive	1
14.	(c) $\frac{5}{7}$	1
15.	$\frac{9}{11}$	1
16.	B. ⅖	1
17.	(a)$\frac{1}{9}$	1
18.	12/13	1
19.	(d)0.25	1
20.	B. 2/7	1
21.	(a) 25/36	1
22.	(d) 3/10	1
23.	(c) 4/9	1
24.	(b) 4 : 7	1
25.	(a) 7/17	1
26.	(c) 11 / 4165	1
27.	(b) 319/420	1
28.	(d) 1.2	1
29.	(d) 16/52	1
30.	(b) P(A) + P(B) = 0	1
31.	(b)	
32.	(d)	

33.	(d)	
34.	(b)	
35.	(a)	
36.	(c)	
37.	(d)	
38.	(a)	
39.	(b)	
40.	(c)	
41.	c.	
42.	d.	
43.	a.	
44.	c.	
45.	d.	
46.	b.	
47.	1/5	1
48.	1	1
49.	3/10	1
50.	3/5	1
51.	d)	1
52.	d) Explanation: probability of drawing a red card is $\frac{26}{52}$ = ½ probability of drawing a face card is =$\frac{12}{52}$ =3/13	1
53.	3/10	1
54.	9/10	1
55.	7/8	1
56.	1/6	1