

HERAMB COACHING CLASSES

XI/MATHS

Marks: 30

Duration: 1Hour

Date: 24-02-2019

Attempt any 6 from the following:

Q.1 Consider an experiment of drawing two cards at random from a bag containing 4 cards marked 5, 6, 7 and 8. Find the sample space if cards are drawn (i) with replacement, (ii) without replacement.

Q.2 Let $S = \{a, b, c, d, e, f, g, h\}$.

$A = \{a, c, d, e\}$, $B = \{b, d, e, g, h\}$

$C = \{c, e, h\}$

List the elements of the following events:

(i) $(i) A \cap B'$, (ii) $(A \cup B \cup C')$, (iii) $(A \cap B) \cup C$.

Q.3 Two dice are thrown together. What is the probability that sum of the numbers on uppermost faces of two dice is 5 or number on the second dice is greater than the number on the first dice?

Q.4 A fair dice is thrown two times. What is the chance that

(i) Product of the numbers on the uppermost face is 6.

(ii) Sum of the numbers on the uppermost face is 8.

(iii) Sum of the numbers on the uppermost face is at least 11.

(iv) Dice shows the same number in both the tosses.

Q.5 A and B are any two events on the sample space S. $P(A) = \frac{1}{4}$, $P(B) = \frac{2}{5}$ and $P(A \cup B) = \frac{1}{2}$. Find the value of the following: (i) $P(A \cap B)$, (ii) $P(A \cap B')$, (iii) $P(A' \cap B)$, (iv) $P(A' \cup B')$, (v) $P(A' \cap B')$

Q.6 If $P(A) = \frac{1}{3}$, $P(B) = \frac{2}{5}$, $P(A \cup B) = \frac{8}{15}$, find $P(A/B)$ and $P\left(\frac{B}{A}\right)$.

Q.7 Probability that a student A can solve a certain problem is $\frac{3}{4}$ and that another student B can solve it is $\frac{4}{5}$. If both try independently, what is the probability that (i) the problem is solved? (ii) The problem is not solved?