Assignment1

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CS21BTECH11006

I. ICSE 10 2018 Paper Question 1(c)

Cards bearing numbers 2, 4, 6, 8, 10, 12, 14, 16, 18 and 20 are kept in a bag. A card is drawn at random from the bag. Find the probability of getting a card which is:
(i) a prime number.
(ii) a number divisible by 4.
(iii) a number that is a multiple of 6.
(iv) an odd number.

II. Answer

Probability, by definition is the ratio of number of favourable outcomes to total number of possible outcomes.

(i) As given numbers are all even numbers from 2 to 20, only 2 is the prime number. And number of possible outcomes is 10.

So required probability of getting a card bearing a prime number is $\frac{1}{10}$.

(ii) Among the given numbers 4, 8, 12, 16 and 20 are divisible by 4. The total number of cards are 10 out of which 5 cards are divisible by 4.

Required probability is $\frac{5}{10} = \frac{1}{2}$.

Therefore, probability of getting a card bearing a number that is divisible by 4 is $\frac{1}{2}$.

(iii) Among the given numbers 6, 12 and 18 are multiples of 6.The total number of outcomes are 10 out of which 3 are required cards.

So, required probability of getting a card bearing a number that is multiple of 6 is $\frac{3}{10}$.

(iv) There are no odd numbers present among the given set of numbers.

Therefore, the probability of getting a card bearing an odd number is 0.