

Statistics - ICom Part 1 Statistics Chapter 9 Short Questions Preparation

Q1. What is the mean and variance of binomial distribution.

Ans 1: Mean $-nP$
Variance $-nPq$

Q2. Define the binomial probability distribution.

Ans 1: If P is the probability of success in a single trial and q is the probability of failure, then the probability of exactly x successes in n trials of a binomial experiment.

Q3. Define Binomial Experiment.

Ans 1: An experiment in which the outcomes can be classified as success or failure and probability of success remain constant from trial to trial is called a binomial experiment.

Q4. What is Bernoulli trial?

Ans 1: A trial having two possible outcomes is called Bernoulli trial.

Q5. What are the resembling point in binomial and hypergeometric experiments.

Ans 1: 1. The outcomes of trial may be classified into two categories as success or failure.
2. Experiment is repeated a fixed number of times.

Q6. What is a binomial experiment.

Ans 1: An experiment in which the outcome can always be classified as either a success or a failure and in which the probability of success remains constant from trial to trial is called a binomial experiment.

Q7. Define binomial random variable.

Ans 1: The random variable X which represents the number of successes in a binomial experiment is called a binomial random variable. The binomial variable is a discrete variable which can assume any of the values $x = 0, 1, 2, \dots, n$.

Q8. Write down any two properties of hypergeometric probability distribution.

Ans 1: 1. The outcomes of each trial may be classified into two categories: success or failure.

2. The successive trials are dependent.

Q9. State the properties of the hypergeometric experiment.

Ans 1: 1- Each trial of the hypergeometric experiment results in an outcome that can be classified into one of the two categories, success or failure.

Ans 2: 2- The successive trials are dependent.

Ans 3: 3- The probability of success changes from trial to trial.

Ans 4: 4- The experiment is repeated a fixed number of times.

Q10. Write down two properties of binomial experiment.

Ans 1:

1. The outcomes of each trial may be classified into two categories i.e. success and failure.
 2. The repeated trials are independent.
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