Statistics - ICS 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. What are the resembling point in binomial and hypergeometric experiments.

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

Q3. Identify the parameters of the binomial distributiion b(x; n,p) and the hypergeometric distribution h(x;N,n,h)

Ans 1: The binomial distribution b (x; n,p) has two parameters n and p, whereas the hypergeometric distribution h (x; N; n,k) has three parameters N, n and h

Q4. State the properteis of the binomial experiment.

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

Ans 2: 2- The probability of success remains constant from ne trial of the experiment to the next.

Ans 3: 3- Each trial of the experiment is independent of all other trials.

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

Q5. What is a hypergeometric experiment.

Ans 1: An experiment in which a random sample is selected without replacement from a finite population is called a hypergeometric experiment. Here the successive trials are not independent and the probability of success does not remain the same from one trial to the other.

Q6. Describe the application of the binomial distribution.

Ans 1: The binomial distribution is applicatble to a wide variety of practical problems as well as to problems of an artificial sort, such as those dealing with cards, dice, coins and coloured balls in boxes.

Ans 2: It can be applied to any industrial situation where an outcome of a process is dischotomous and the results of the process are independent with a probability of success beng the same from trial to trial.

Ans 3: It is also used in medical and military situations. A drug eigher curse or does not cure the disease. A missible either hits or does not bit the target.

Q7. What is a binomial experiment.

Ans 1: An experiment in whihc 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 experiament.

Q8. State the properties of the hyperogemoetric 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.

Q9. Define hypergeometric experiment.

Ans 1: An experiment in which a random sample is chosen without replacement from a finite population is said to be hypergeometric experiment.

Q10. Write down two properties of binomial experiment.

Ans 1:

1. The outcomes of each trail may be classified into two categories i.e success and failure.
2. The replaced trails are independent.