# Practical-1

## Estimation of population mean and variance by SRSWOR

A population consists of 6 units the value of an observed varities 12,18,16,84,43.

1. Draw all Possible samples of size 2 with replacement.
2. S.T the sample mean is an unbiased estimator of population mean
3. Estimate the population variance σ2 .

# Practical-2

## Estimation of population mean and variance by SRSWOR

A population consists of 6 units the value of an observed varities 8,3,1,11,4,7.

1. Draw all Possible samples of size 2 without replacement.
2. S.T sample mean *yn* is an unbiased estimator of population mean *yn*
3. Estimate the population variance σ2 .

# Practical-3

## ANOVA – one way classification

Three process A,B,C are tested to see whether their outputs are equivalent , the following observations of outputs are made.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Process A | 10 | 12 | 13 | 11 | 10 | 14 | 15 | 13 |
| Process B | 9 | 11 | 10 | 12 | 13 |  |  |  |
| Process C | 11 | 10 | 15 | 14 | 12 | 13 |  |  |

Carry out the analysis of variance and state your conclusions.

# Practical-4

## Analysis of CRD

3 varieties of coal of coal where analysed by chemists and ash contact in 3 varieties was found to be as under

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **varieties** | **1** | **2** | **3** | **4** |
| **A** | 8 | 5 | 5 | 7 |
| **B** | 7 | 6 | 4 | 4 |
| **C** | 3 | 6 | 5 | 4 |

Do the varieties defer significantly in their ash content using CRD