**F – Test**

It’s a statistical test that is used to determine if the samples are homogeneous or drawn from the same population sometimes referred to as the variance ratio i.e used to test the homogeneity of different sets of data.

Now, suppose

Total variation = variation due to assignable factors + variation due to chance factors

**Example**

Two different drugs are under scrutiny by the ministry of health to determine if they have the same effect in curing a certain disease. Drug A is locally manufactured and drug B is imported. 10 patients were subjected to drug A and the variance in their recovery rate was found to be 7.285 and the variance in the recovery rate of 11 patients subjected to drug B was 6.145. Do you think the drugs have the same effect at 1% level of significance?

**Solution**

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Treatment (Nutrients) increase in weight of babies (Kgs)

Protein 5 4 6

Carbohydrates 3 6 5 4

Vitamins 7 3

Test whether the nutrients differ significantly at 1% level of significance.

**Solution**

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| Treatment  Error | V – 1 = 3 – 1 =2  n – v =9 – 3 = 6 |  |  |  |
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| treatments |  |  |
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| Treatment (Drugs)  Blocks (Hospitals)  Error | V – 1 = 3  b – 1 = 2  (v-1)(b-1) =  6 |  |  |  |
|  |  |  |  |  |