

BB21

Handwritten calculation.

| | |
|------------|-------|
| Page No. 1 | YOUVA |
| Date: | |

Calculation for the values of u for different groups

These values are an approximation which are inferred from the raw data graphs of FEV measurements with age.

The number of spikes reaching below 2.5 are calculated and accordingly values of u are justified.

$u = 1.07$ Smokers

$u = 1.09$ Asthma

$u = 1.10$ COPD

$u = 1.12$ SC

$u = 1.14$ CA

$u = 1.16$ SA

$u = 1.19$ SAC

The Gaussian distribution graphs are dependent on the following equations:-

$$pr(x|\mu, \sigma) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$

where μ is the mean, and σ is standard deviation.

$$\text{Standard deviation}(\sigma) = \sqrt{\frac{\sum (x - \mu)^2}{n}}$$

The μ values and σ values are calculated in excel.

And are placed in the code.