



**Mi Universidad**

**NOMBRE DEL ALUMNO:** Jhoan de Jesús Morales Jiménez

**TEMA:** Medidas de tendencia central, medidas de dispersión, Intervalo de confianza para la media de una población y Teorema de Bayes

**PARCIAL:** I

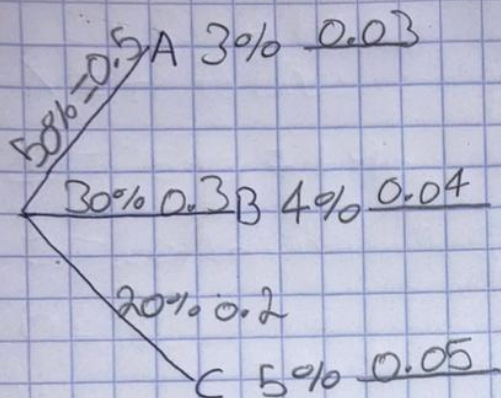
**MATERIA:** **Bioestadística**

**NOMBRE DEL PROFESOR:** Ing. Joel Herrera Ordoñez

**LICENCIATURA:** **Enfermería**

## Ejercicio 5

Teorema de Bayes



$$P = (0.5)(0.03) + (0.3)(0.04) + (0.2)(0.05)$$

$$0.015 + 0.012 + 0.01 = 0.037 = 3.7\%$$

$$A = \frac{0.015}{0.037} = 0.405 = 40.5\%$$

$$B = \frac{0.012}{0.037} = 0.324 = 32.4\%$$

$$C = \frac{0.01}{0.037} = 0.270 = 27\%$$

Comunidad "A"

## Ejercicio 4

$$IC = \bar{X} \pm Z \left[ \frac{S}{\sqrt{n}} \right]$$

$$\bar{X} = 48.78 \text{ años}$$

$$Z = 95\% = 1.96$$

$$S = 16.32 \text{ años}$$

$$n = 100$$

$$IC =$$

$$= 48.78 \pm 1.96 \left[ \frac{16.32}{\sqrt{100}} \right]$$

$$= 48.78 \pm 1.96(1.632)$$

$$= 48.78 \pm 3.1987$$

$$= 48.78 + 3.1987 = 51.9787$$

$$= 48.78 - 3.1987 = 31.9387$$

Se estima con un 95% de confianza que en la Comunidad de Valenciana se diagnostica la diabetes Mellitus entre 51.9787 y 31.9387.

### Ejercicio 3

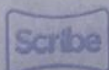
Medidas de dispersión

2, 2, 4, 4, 5, 5, 6

$$\bar{x} = 4 \quad S^2 = 10^2 \quad S = 3,16$$

$$S^2 = \frac{(2-4)^2 + (2-2)^2 + (4-4)^2 + (4-4)^2 + (5-4)^2 + (5-4)^2 + (6-4)^2}{7}$$

$$S^2 = 4 + 0 + 0 + 0 + 1 + 1 + 4$$



## Ejercicio 2

Datos agrupados puntualmente

$\frac{D}{2}$

| X     | f               | F               | x·f |
|-------|-----------------|-----------------|-----|
| 44    | 1               | 1               | 44  |
| 45    | 4 <sup>mo</sup> | 5               | 180 |
| 49    | 1               | 6 <sup>mo</sup> | 49  |
| 53    | 1               | 7               | 53  |
| 54    | 1               | 8               | 54  |
| 55    | 2               | 10              | 110 |
| 56    | 1               | 11              | 56  |
| 57    | 1               | 12              | 57  |
| Total | 12              |                 | 603 |

$$\bar{X} = \frac{\sum x \cdot f}{n}$$

$$\bar{X} = \frac{\sum x \cdot f}{n} = \frac{603}{12} = 50,25$$

$$\bar{X} = 50,25$$

$$\frac{n}{2} = \frac{12}{2} = 6$$

$$M_c = 49$$

$$M_o = 45$$

## Ejercicio 1

### Medidas de tendencia central

9, 3, 8, 8, 9, 8, 9, 18

$$5 + 3 + 8 + 8 + 9 + 8 + 9 + 18 = 68 \frac{68}{8} = 8.5$$

$$\bar{X} = 8.5$$

3, 5, 8, 8, 8, 9, 9, 18

$$Me = 8$$

$$Mo = 8$$