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TE(AI/DS) - 26

Statistics : Assignment No. 02

Q.1.

$$\bar{x} = 3444 \text{ gm}$$

$$Z_{\alpha/2} = 1.96$$

$$\sigma = \text{S.D} = (\sigma) \text{ gm} = 26 \text{ gm}$$

$$n = 75$$

to find the confidence interval.

$$C_1 = \left[\bar{x} - Z_{\alpha/2} \times \frac{\sigma}{\sqrt{n}}, \bar{x} + Z_{\alpha/2} \times \frac{\sigma}{\sqrt{n}} \right]$$

$$\therefore C_1 = \left[3444 - 1.96 \times \frac{26}{\sqrt{75}}, 3444 + 1.96 \times \frac{26}{\sqrt{75}} \right]$$

$$\therefore C_1 = [3438.1156, 3449.8844]$$

Q.2.

$$n = 6 \text{ ounces}$$

$$\sigma (\text{S.D}) = 0.26 \text{ ounces}$$

$$\bar{x} = 12.1 \text{ ounces}$$

$$99\% \text{ Z critical : } Z_{\alpha/2} = 2.576$$

$$\therefore C_1 = \left[12.1 - 2.576 \times \frac{0.26}{\sqrt{6}}, 12.1 + 2.576 \times \frac{0.26}{\sqrt{6}} \right]$$

$$\therefore C_1 = [11.8266, 12.3734]$$