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PME
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ASSIGNMENT - II

Q1. The residents of Vegopia spend all of their income on cauliflower, broccoli, and carrots. In 2016, they spend a total of \$200 for 100 heads of cauliflower; \$75 for 50 bunches of broccoli and \$50 for 500 carrots. In 2017, they spend a total of \$225 for 75 heads of cauliflower, \$20 for 80 bunches of broccoli, & \$100 for 500 carrots.

- (a) Calculate the price of one unit of each vegetable in each year.
- (b) Using 2016 as the ^{base} year, cal. the CPI for each year.
- (c) What is inflation rate in 2017?

Ans (a)

Year.	Cauliflower. (unit price)	Broccoli (unit price)	Carrot. (unit price)
2016	\$2	\$1.50	\$0.10
2017	\$3	\$1.50	\$0.20

Ans (b)

For year 2016, as base year,

$$CPI = 100 \times \frac{\text{Current year price}}{\text{base year price}}$$

~~Cost of basket~~

Cost of basket -

$$2016 \Rightarrow 200 + 75 + 50 = \$325$$

$$2017 \Rightarrow 100 \times 3 + 80 \times 1.50 + 500 \times 0.20 = \$495$$

CPI for 2016,

$$CPI = 100 \times \frac{325}{325} = 100$$

CPI for 2017,

$$CPI = 100 \times \frac{475}{325} = 146.15$$

Ans (c)

$$\text{inflation rate} = \frac{CPI_{\text{current year}} - CPI_{\text{base year}}}{CPI_{\text{base year}}} \times 100\%$$

inflation rate in 2017,

$$= \frac{146.15 - 100}{100} \times 100 = \underline{\underline{46.15\%}}$$

Q2. Which of the problems in the construction of the CPI might be illustrated by each of the following situations? Explain.

- The invention of cell phones.
- Increased PC purchases in response to a decline in their price.
- Greater use of fuel-efficient cars after gasoline price increases.

Ans (a) Considering current situation problem is introduction of new goods, which increases variety to choose from. Since CPI, is not revised often, these new goods & services are left out of the basket to be include. Thus, CPI overstates increases in cost of living.

Ans (b) Here problem is CPI's substitution bias, Since, it uses fixed basket of goods. it misses the substitution. As it is not able to adjust & provide higher weight to PC even though consumer spend more of them.

Ans (c) Problem is CPI's substitution bias, even though people are shifting towards more fuel efficient car, the CPI will not be able to show the higher reliance on fuel efficient cars as it is not revised often