EXERCISE 16(C)

Question 1.
The price of rice rises from Rs. 30 per kg to Rs. 36 per kg. Find the percentage rise in the price of rice.
Solution:
First price of rice = Rs. 30 per kg
Rised price = Rs. 36 per kg
Rise per kg = 36 – 30 = Rs. 6
Percent rise = $\frac{6}{30}$ x 100 = 20%

Question 2.
The population of a small locality was 4000 in 1979 and 4500 in 1981, By what percent had the population increase ?
Solution:
Year 1979 population = 4,000
Year 1981 population = 4,500
Increase in population = (4,500 – 4,000) = 500
percentage of increase in population = $\frac{500}{4000}$ x 100 = 12.5%

Question 3.
The price of a scooter was ₹ 8000 in 1975. It came down to ₹ 6000 in 1980. By what percent had the price of the scooter came down ?
Solution:
Original cost of scooter = ₹ 8,000
Reduced cost of scooter = ₹ 6000
Reduction in price of scooter = ₹ 8,000 – ₹ 6,000 = ₹ 2,000
Percentage of reduction = $\frac{2000}{8000}$ x 100 = 25%

Question 4.
Find the resulting quantity when :
(i) ₹ 400 is decreased by 8%.
(ii) 25 km is increased by 5%.
(iii) a speed of 600 km/h is increased by $12\frac{1}{2}$ %
(iv) there is 2.5% increase in a salary of ₹ 62, 500.
Solution:

(*i*) 8 % decrease in ₹ 400

8 % of ₹ 400 $= \frac{8}{100} \times 400 =$ ₹ 32

Decreased quantity = ₹ 400 – ₹ 32

= ₹ 368

(*ii*) 5% increase in 25 km.

5% of 25 km $= \frac{5}{100} \times 25$

$= \frac{5}{4} = 1{\cdot}25$ km.

Increase quantity = 25 km + 1·25 km

= 26·25 km.

(*iii*) $12\frac{1}{2}\%$ increase in a speed of 600 km/h

$12\frac{1}{2}\%$ or $\frac{25}{2}\%$ of 600 km/h

$= \frac{25}{200} \times 600 = 75$ km/h

Increased speed = 600 km/h + 75 km/h

= 675 km/h

(*iv*) Rise in salary = 2.5%

Total salary = ₹ 62500

∴ Total rise = 2.5% of 62500

$= 62500 \times \frac{25}{10 \times 100} = \frac{3125}{2}$

= ₹ 1562.50

Resulting quantity (salary) = ₹ 62500 + ₹ 1562.50 = ₹ 64062.50

Question 5.

The population of a village decreased by 12%. If the original population was 25,000, find the population after decrease ?

Solution:

Original population = 25,000

Decrease in population = 12% Population after decrease

= 25,000 - 12% of 25,000

$= 25{,}000 - \frac{12}{100} \times 25{,}000$

= 25,000 - 3,000 = 22,000

Question 6.

Out of a salary of Rs. 13,500,1 keep 1/3 as savings. Of the remaining money, I spend 50% on food and 20% on house rent. How much do I spend on food and house rent ?

Solution:

Total salary = ₹ 13500

My savings = $\frac{1}{3}$ of ₹ 13500 = ₹ 4500

Remaining salary = ₹ 13500 – 4500
= ₹ 9000

Amount spent on food = 50% of ₹ 9000

= Rs. $\frac{50}{100} \times 9000$ = ₹ 4500

Amount spent on rent = 20% of ₹ 9000

= ₹ $\frac{20}{100} \times 9000$ = ₹ 1800

Total amount spent on food and rent
= ₹ 4500 + ₹ 1800 = ₹ 6300

Question 7.

A tank can hold 50 litres of water. At present, it is only 30% full. How many litres of water shall I put into the tank so that it becomes 50% full ?

Solution:

Capacity of tank = 50 litres

30% of capacity = 30% of 50 litres

$= \frac{30}{100} \times 50 = 15$ litres

50% of capacity = 50% of 50 litres

$= \frac{50}{100} \times 50 = 25$ litres

Water need to bring it to 50% capacity

= 25 – 15 = **10 litre**

Question 8.

In an election, there are a total of 80,000 voters and two candidates, A and B. 80% of the voters go to the polls out of which 60% vote for A. How many votes does B get.

Solution:

Member of voters = 80,000

Total vote polled = 80% of 80,000 = $\frac{80}{100}$ x 80,000 = 64,000

Vote polled to A = 60% of 64,000 = $\frac{60}{100}$ x 64000 = 38,400

Vote polled to B = Total vote polled - vote polled to A = 64,000 - 38,400 = 25,600

Question 9.

70% of our body weight is made up of water. Find the weight of water in the body of a

person whose body weight is 56 kg.

Solution:

Water in human body = 70%

Weight of a man = 56 kg

Quantity of water in him = 70% of 56

$= \frac{70}{100}$ = x 56 = 39.2 kg

Question 10.

Only one-fifth of water is available in liquid form. This limited amount of water is replenished and used by man recurrently. Express this information as percent, showing :

(i) water available in liquid form.

(ii) water available in frozen form.

Solution:

Let total quantity of water = 1

Water available in liquid form $= \frac{1}{5}$

$\therefore$ Water available in frozen form

$= 1 - \frac{1}{5} = \frac{5-1}{5} = \frac{4}{5}$

Water used by a man $= \frac{1}{5}$

Percent of water available in liquid form

$= \frac{1}{5} \times 100 = 20\%$

and percent of water available in frozen

form $= \frac{4}{5} \times 100 = 80\%$

Question 11.

By weight, 90% of tomato and 78% of potato is water. Find :

(i) the weight of water in 25 kg of tomato.

(ii) the total quantity, by weight, of water in 90 kg of potato and 30 kg of tomato

(iii) the weight of potato which contains 39 kg of water.

Solution:

Water in tomato = 90% and water in potato = 78%

(i) Weight of water in 25 kg of tomato

$$= 25 \times 90\% = \frac{25 \times 90}{100}$$

$$= \frac{90}{4} \text{ kg} = \frac{45}{2} \text{ kg} = 22.5 \text{ kg}$$

(*ii*) Total quantity of water in 90 kg of potato and 30 kg of tomato

$$= \left(90 \times \frac{78}{100} + 30 \times \frac{90}{100}\right) \text{kg}$$

$$= \frac{7020}{100} \text{ kg} + 27 \text{ kg}$$

$$= 70.20 \text{ kg} + 27 \text{ kg} = 97.20 \text{ kg}$$

$$= 97.2 \text{ kg}$$

(*iii*) Weight of water in potato = 39 kg

$\therefore$ Weight of potato $= \frac{39 \times 100}{78} = 50$ kg