

# INTEREST



(1) Find the simple interest on ₹1,300 from December 23, 2002 to May 18, 2003 at  $7\frac{1}{2}\%$  per annum.

Sol: (i) Given:  $P = ₹1,300$  and  $R = \frac{15}{2}\%$

$$\text{Also, } T = 1.46 \text{ days} \\ = \frac{146}{365} \text{ years} = \frac{2}{5} \text{ year}$$

$$\therefore \text{S.I.} = \frac{₹1,300 \times 15 \times 2}{100 \times 2 \times 5} = ₹39$$

(2) Find the rate of interest per year, if the interest charged for 8 months be 0.06 times of the money borrowed.

Sol: Let the money borrowed be ₹100 i.e.,  $P = ₹100$   
Charged =  $0.06 \times ₹100 = ₹6$  and  $T = \frac{8}{12}$  years  
 $= \frac{2}{3}$  years

$$\text{Rate} = \frac{I \times 100}{P \times T} \% = \frac{6 \times 100}{100 \times \frac{2}{3}} \% = 9\%$$

(3) The sum of money lent out at 9 percent for 5 years produces twice as much interest as ₹4,800 in  $4\frac{1}{2}$  years at 10 per cent. Find the sum.

Sol: Let the required sum be ₹ $x$ .

$$\frac{₹x \times 9 \times 5}{100} = 2 \times ₹ \frac{4,800 \times 10 \times 9}{100 \times 2}$$

We get  $x = ₹ 9,600$   
The required sum = ₹ 9,600.

(4) A certain sum amounts to ₹ 9,440 in 3 years and to ₹ 10,400 in 5 years. find the sum and the rate percent.

Sol: amount in 3 years = ₹ 9,440

Amount in 5 years = ₹ 10,400

$$\therefore \text{Interest of 2 years} = ₹ 10,400 - ₹ 9,440 = ₹ 960$$

$$\Rightarrow \text{Interest of 1 year} = \frac{₹ 960}{2} = ₹ 480$$

$$\text{Interest of 3 years} = ₹ 480 \times 3 = ₹ 1,440$$

$$P + ₹ 1,440 = ₹ 9,440 \Rightarrow P = ₹ 8,000$$

Taking  $P = ₹ 8,000$ ,  $I = ₹ 480$  and  $T = 1 \text{ year}$

$$\text{Rate} = \frac{I \times 100}{P \times T} \% = \frac{480 \times 100}{8000 \times 1} \% = 6\%$$

The sum = ₹ 8,000 and rate percent = 6%

Remaining money or plot of land = 3,00,000

X

HW

## PERCENTAGE QUESTIONS

- (1) In an election between two candidates one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:
- (2) A student has to obtain 33% of the total marks to pass. He got 125 marks and failed by 40 marks. The maximum marks are:
- (3) If the price of a book is first decreased by 25% and then increased by 20%, then the net change on the price will be:
- (4) A man spends 35% of his income on food, 25% on children's education and 80% of the remaining on house rent. What percent of his income he is left with?
- (5) If 75% of a number is added to 75, then the result is the net %