Chapter: Simple Interest **Class:** 7
Test Code: 2026/Simple Interest/VII/01
Max Marks: 15

Q.1 Given: Principal (P) = Rs. 7,200, Rate (R) = $6\frac{1}{4}\% = \frac{25}{4}\%$ per annum, Time (T) = 8 months = $\frac{8}{12} = \frac{2}{3}$ years.

The formula for Simple Interest (SI) is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$SI = \frac{7200 \times \frac{25}{4} \times \frac{2}{3}}{100} = \frac{7200 \times 25 \times 2}{4 \times 3 \times 100} = \frac{7200 \times 50}{1200} = \frac{360000}{1200} = 300$$

Thus, the Simple Interest is $\boxed{\text{Rs. } 300}$.

Q.2 Let the principal be P. The amount after 8 years is $2P$.

Simple Interest (SI) = Amount - Principal = $2P - P = P$.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$P = \frac{P \times R \times 8}{100}$$

Solve for R:

$$1 = \frac{R \times 8}{100} \implies R = \frac{100}{8} = 12.5\%$$

Thus, the rate of interest per annum is $\boxed{12.5\%}$.

Q.3 Given: Principal (P) = Rs. 4,500, Simple Interest (SI) = Rs. 1,080, Time (T) = 3 years.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$1080 = \frac{4500 \times R \times 3}{100}$$

Solve for R:

$$1080 = \frac{13500 \times R}{100} \implies 1080 = 135 \times R \implies R = \frac{1080}{135} = 8\%$$

Thus, the rate of interest per annum is $\boxed{8\%}$.

Q.4 Let the principal be P.

Simple Interest for 4 years at 9

$$SI_1 = \frac{P \times 9 \times 4}{100} = \frac{36P}{100}$$

Simple Interest for 3 years at 10

$$SI_2 = \frac{P \times 10 \times 3}{100} = \frac{30P}{100}$$

Given:

$$SI_1 = SI_2 + 114$$

Substitute the values:

$$\frac{36P}{100} = \frac{30P}{100} + 114 \implies \frac{6P}{100} = 114 \implies P = \frac{114 \times 100}{6} = 1900$$

Thus, the sum is $\boxed{\text{Rs. } 1,900}$.

Q.5 Let the principal be P. The amount after 6 years is $\frac{7}{4}P$.

Simple Interest (SI) = Amount - Principal = $\frac{7}{4}P - P = \frac{3}{4}P$.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$\frac{3}{4}P = \frac{P \times R \times 6}{100}$$

Solve for R:

$$\frac{3}{4} = \frac{6R}{100} \implies R = \frac{3 \times 100}{4 \times 6} = \frac{300}{24} = 12.5\%$$

Thus, the rate of interest is $\boxed{12.5\%}$.

Q.6 Given: Principal (P) = Rs. 2,500, Amount (A) = Rs. 3,100, Rate (R) = 6

Simple Interest (SI) = Amount - Principal = $3100 - 2500 = 600$.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$600 = \frac{2500 \times 6 \times T}{100}$$

Solve for T:

$$600 = 150 \times T \implies T = \frac{600}{150} = 4 \text{ years}$$

Thus, the time required is $\boxed{4 \text{ years}}$.

Q.7 Let the principal be P, the rate be $R\%$, and the time be $T = R$ years.

Given:

$$SI = \frac{4}{9}P$$

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute $T = R$:

$$\frac{4}{9}P = \frac{P \times R \times R}{100}$$

Solve for R:

$$\frac{4}{9} = \frac{R^2}{100} \implies R^2 = \frac{400}{9} \implies R = \frac{20}{3} = 6\frac{2}{3}\%$$

Thus, the rate of interest is $\boxed{6\frac{2}{3}\%}$.

Q.8 Time from 5th January to 31st May = 146 days = $\frac{146}{365}$ years.

Given: Principal (P) = Rs. 3,650, Rate (R) = 5

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$SI = \frac{3650 \times 5 \times \frac{146}{365}}{100} = \frac{3650 \times 5 \times 146}{365 \times 100} = \frac{5 \times 146}{10} = 73$$

Thus, the Simple Interest is $\boxed{\text{Rs. } 73}$.

Q.9 Let the principal be P and the rate be $R\%$.

Amount after 2 years:

$$A_1 = P + \frac{P \times R \times 2}{100} = 1008$$

Amount after 3.5 years:

$$A_2 = P + \frac{P \times R \times 3.5}{100} = 1164$$

Subtract the first equation from the second:

$$\frac{P \times R \times 1.5}{100} = 156 \implies \frac{1.5PR}{100} = 156 \implies PR = 10400$$

Substitute $PR = 10400$ in the first equation:

$$P + \frac{2 \times 10400}{100} = 1008 \implies P + 208 = 1008 \implies P = 800$$

Thus, the principal sum is $\boxed{\text{Rs. } 800}$.

Q.10 Let the principal be $5x$ and the amount be $8x$.

Simple Interest (SI) = Amount - Principal = $8x - 5x = 3x$.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$3x = \frac{5x \times R \times 5}{100}$$

Solve for R:

$$3x = \frac{25xR}{100} \implies 3 = \frac{R}{4} \implies R = 12\%$$

Thus, the rate of interest per annum is $\boxed{12\%}$.

Q.11 Let the principal be P and the original rate be $R\%$.

Difference in Simple Interest:

$$\frac{P \times (R+2) \times 3}{100} - \frac{P \times R \times 3}{100} = 360$$

Simplify:

$$\frac{6P}{100} = 360 \implies P = \frac{360 \times 100}{6} = 6000$$

Thus, the sum is $\boxed{\text{Rs. } 6,000}$.

Q.12 Given: Principal (P) = Rs. 800, Amount (A) = Rs. 920, Time (T) = 3 years.

Simple Interest (SI) = Amount - Principal = $920 - 800 = 120$.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$120 = \frac{800 \times R \times 3}{100} \implies 120 = 24R \implies R = 5\%$$

New rate = $5\% + 3\% = 8\%$.

New Simple Interest:

$$SI_{\text{new}} = \frac{800 \times 8 \times 3}{100} = 192$$

New Amount:

$$A_{\text{new}} = 800 + 192 = 992$$

Thus, the new amount is $\boxed{\text{Rs. } 992}$.

Q.13 Let the rate be $R\%$.

Total Simple Interest:

$$\frac{1400 \times R \times 3}{100} + \frac{1100 \times R \times 3}{100} = 450$$

Simplify:

$$\frac{2500 \times R \times 3}{100} = 450 \implies 75R = 450 \implies R = 6\%$$

Thus, the rate of interest is $\boxed{6\%}$.

Q.14 Let the principal be P.

Amount (A) = Rs. 5,220, Rate $(R) = 8$Time $(T) = 2$ years.

The formula for Amount is:

$$A = P + \frac{P \times R \times T}{100}$$

Substitute the values:

$$5220 = P + \frac{P \times 8 \times 2}{100} \implies 5220 = P + \frac{16P}{100} \implies 5220 = 1.16P \implies P = \frac{5220}{1.16} = 4500$$

Thus, the sum of money is $\boxed{\text{Rs. } 4,500}$.

Q.15 Let the two parts be x and $2600 - x$.

Interest on the first part:

$$I_1 = \frac{x \times 5 \times 3}{100} = \frac{15x}{100}$$

Interest on the second part:

$$I_2 = \frac{(2600 - x) \times 6 \times 4}{100} = \frac{24(2600 - x)}{100}$$

Set $I_1 = I_2$:

$$\frac{15x}{100} = \frac{24(2600 - x)}{100} \implies 15x = 24(2600 - x) \implies 15x = 62400 - 24x \implies 39x = 62400 \implies$$

Thus, the two parts are $\boxed{\text{Rs. } 1,600}$ and $\boxed{\text{Rs. } 1,000}$.