31- If simple interest on a certain sum of money for 4 years at 5% per annum is same as the simple interest on Rs. 560 for 10 years at the rate of 4% per annum then the sum of money is:

- **A.**1190
- **B.**1120
- **C.**1210
- **D.**1280
- **E.**None of these

Answer & Explanation

Answer - **B** (1120)

Explanation -

Let the required sum of money be Rs. X.

Here $R_1 = 5\%$, $T_1 = 4$ years, $R_2 = 4\%$, $T_2 = 10$ years.

$$\frac{X \times 4 \times 5}{100} = \frac{560 \times 4 \times 10}{100}$$

or, X = Rs. 1120.

32- The difference between the simple interest received from two different sources on Rs. 1500 for 3 years is Rs. 13.50. The difference between their rate of interest is:

- **A.**0.1%
- **B.**0.2%
- **C.**0.3%
- **D.**0.4%
- **E.**None of these

Answer & Explanation

Answer - **C** (0.3%)

Explanation -

$$\frac{1500 \times R_1 \times 3}{100} - \frac{1500 \times R_2 \times 3}{100} = 13.5$$

$$4500 (R_1 - R_2) = 1350$$

$$R_1 - R_2 = \frac{1350}{4500} = 0.30\%$$

33- David invested certain amount in three different schemes A, B and C with the rate of interest 10% p.a., 12% p.a. and 15% p.a. respectively. If the total interest accrued in one year was Rs. 3200 and the amount invested in Scheme C was 150% of the amount invested in Scheme A and 240% of the amount invested in Scheme B, what was the amount invested in Scheme B?

- **A.**Rs 5000
- **B.**Rs 6500
- **C.**Rs 8000
- **D.**Rs 10000
- **E.**None of these

Answer & Explanation

Answer - **A** (Rs 5000)

Explanation - Let x, y and z be the amounts invested in schemes A, B and C respectively. Then,

$$\frac{x \times 10 \times 1}{100} + \frac{y \times 12 \times 1}{100} + \frac{z \times 15 \times 1}{100} = 3200$$

$$10x + 12y + 15z = 320000 \quad (i)$$

Now, $z = 240\%$ of $y = \frac{12}{5}y$ (*ii*)

And, $z = 150\%$ of $x = \frac{3}{2}x$ $x = \frac{2}{3}z = \frac{2}{3} \times \frac{12}{5}$ $y = \frac{8}{5}y$ (*iii*)

From (*i*), (*ii*) and (*iii*), we have :

$16y + 12y + 36y = 320000$

$64y = 320000$

$y = 5000$

Sum invested in Scheme B = Rs. 5000

34- A sum of Rs. 1550 was lent partly at 5% and partly at 8% p.a. simple interest. The total interest received after 3 years was Rs. 300. The ratio of the money lent at 5% to that lent at 8% is:

- **A.**5 : 8
- **B.**8 : 5
- **C.**16 : 15
- **D.**31 : 6
- **E.**None of these

Answer & Explanation

Answer - **C** (16 : 15)

Explanation -

Let the sum lent at 5% be Rs. x and that lent at 8% be Rs. (1550 – x). Then,

Then, $\frac{x \times 5 \times 3}{100} + \frac{(1550 - x) \times 8 \times 3}{100} = 300$

$15x - 24x + (1550 \times 24) = 30000$

$9x = 7200$

$x = 800$

Required ratio = 800 : 750 = 16 : 15

35- A sum was put a simple interest at a certain rate for 2 years. Had it been put at 3% higher rate, it would have fetched Rs. 72 more. The sum is:

- **A.**Rs. 1200
- **B.**Rs. 1500
- **C.**Rs. 1600
- **D.**Rs. 1800
- **E.**None of these

Answer & Explanation

Answer - **A** (Rs. 1200)

Explanation -

Let the sum be Rs. x and original rate be R%. Then,

$$\frac{x \times (R+3) \times 2}{100} - \frac{x \times R \times 2}{100} = 72$$

$$2Rx + 6x - 2Rx = 7200$$

$$x = 1200.$$

36- A sum of money becomes 7/6 of itself in 3 years at a certain rate of simple interest. The rate per annum is:

- **A.**5 5/9%
- **B.**6 5/9%
- **C.**18%
- **D.**25%
- **E.**None of these

Answer & Explanation

Answer - **A** (5 5/9%)

Explanation - Let sum = x.

Then, amount = $7x/6$

S.I. = $(7x/6 - x) = x/6$,

Time = 3 years Rate = $(100 \times x/ x \times 6 \times 3)\% = 50/9\%$

= 5 5/9%

37- A certain sum is invested for T years. It amounts to Rs. 400 at 10% per annum. But when invested at 4% per annum, it amounts to Rs. 200. Find the time (T)?

- **A.**39 years
- **B.**41 years
- **C.**45 years
- **D.**50 years
- **E.**None of these

Answer & Explanation

Answer - **D** (50 years)

Explanation -

We have, A_1 = Rs. 400, A_2 = Rs. 200, R_1 = 10%, R_2 = 4%

$$\text{Time (T)} = \frac{A_1 - A_2}{A_2R_1 - A_1R_2} \times 100$$

$$= \frac{400 - 200}{200 \times 10 - 400 \times 4} \times 100 = \frac{20000}{400} = 50 \text{ Years.}$$

38- If the simple interest on a certain sum of money for 2 years is one – fifth of the sum, then the rate of interest per annum is:

- **A.**7%
- **B.**8%
- **C.**9%
- **D.**10%
- **E.**None of these

Answer & Explanation

Answer - **D** (10%)

Explanation -

We have, T = 2 years.

Let the principal be Rs. x

Then, simple interest (I) = Rs. $\frac{x}{5}$

Rate of interest (R) = $\frac{100 \times I}{P \times T} = \frac{100 \times \frac{x}{5}}{x \times 2}$

$\frac{100}{5 \times 2}$ = 10% p.a.

39- The Sum of money that will produce Rs. 1770, interest in 7 1/2 years at 8% simple interest per annum is:

- **A.**Rs 2950
- **B.**Rs 2800
- **C.**Rs 3120
- **D.**Rs 3200
- **E.**None of these

Answer & Explanation

Answer - **A** (Rs 2950)

Explanation -

Here, I – Rs. 1770, R = 8% per annum, $T = \frac{15}{2}$ years

$$\text{Principal (P)} = \frac{100 \times I}{R \times T} = \frac{100 \times 1770}{8 \times \frac{15}{2}}$$

= Rs. 2950

40- The simple interest on Rs. 1820 from March 9, 2003 to May 21, 2003 at 7.5% rate will be:

- **A.**22.50
- **B.**27.30
- **C.**28.80
- **D.**29
- **E.**None of these

Answer & Explanation

Answer - **B** (27.30)

Explanation -

Time = (22 + 30 + 21) days = 73 days = $\frac{1}{5}$ year.

S.I. = Rs. $1820 \times \frac{15}{2} \times \frac{1}{5} \times \frac{1}{100}$ = Rs. 27.30