

**11-** A candidate who gets 20% marks fails by 10 marks but another candidate who gets 42% marks gets 12% more than the passing marks. Find the maximum marks?

- **A.**100
- **B.**80
- **C.**70
- **D.**60
- **E.**None of these

#### Answer & Explanation

**Answer** - **A** (100)

**Explanation** -

Let the maximum marks be x.

From the given statement pass percentage is  $42\% - 12\% = 30\%$

By hypothesis,  $30\% \text{ of } x - 20\% \text{ of } x = 10 \text{ (marks)}$

i.e.,  $10\% \text{ of } x = 10$

Therefore,  $x = 100$  marks.

**12-** A sum of Rs. 800 amounts to Rs. 920 in 3 years at simple interest. If the interest rate is increased by 3%, it would amount to how much?

- **A.**764
- **B.**992
- **C.**850
- **D.**770
- **E.**None of these

#### Answer & Explanation

**Answer** - **B** (992)

**Explanation** -

S.I = Rs.  $(920 - 800) = \text{Rs. } 120$ ; P = Rs. 800, T = 3 yrs

$$R = \left( \frac{100 \times 120}{800 \times 3} \right)\% = 5\%$$

New rate =  $(5 + 3)\% = 8\%$

New S.I. = Rs.  $\frac{(800 \times 8 \times 3)}{100} = \text{Rs. } 192$ .

New amount = Rs.  $(800 + 192) = \text{Rs. } 992$

**13-** A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The sum is:

- **A.**650
- **B.**690
- **C.**698
- **D.**700
- **E.**None of these

#### Answer & Explanation

**Answer** - **C** (698)

**Explanation** -

S.I. for 1 year = Rs. (854 – 815) = Rs. 39

S.I. for 3 years = Rs. (39 x 3) = Rs. 117

Principle = Rs. (815 – 117) = Rs. 698

**14-** Nitin borrowed some money at the rate of 6 % p.a. for the first three years, 9% p.a. for the next five years and 13% p.a. for the period beyond eight years. If the total interest paid by him at the end of eleven years is Rs. 8160, how much money did he borrow?

- **A.**8000
- **B.**10,000
- **C.**12,000
- **D.**11,000
- **E.**None of these

#### Answer & Explanation

**Answer** - **A** (8000)

**Explanation** -

Let the sum be Rs. a Then,

$$\frac{(a \times 6 \times 3)}{100} + \frac{(a \times 9 \times 5)}{100} + \frac{(a \times 13 \times 3)}{100} = 8160$$

$$88a + 45a + 39a = (8160 \times 100)$$

$$102a = 816000$$

$$a=8000.$$

**15-** The price of a T.V set worth Rs. 20,000 is to be paid in 20 installments of Rs. 1000 each. If the rate of interest be 6% per annum, and the first installment be paid at the time of purchase, then the value of the last installment covering the interest as well will be:

- **A.**1050
- **B.**2050
- **C.**3000
- **D.**5000
- **E.**None of these

#### Answer & Explanation

**Answer** - **E** (None of these)

**Explanation** -

Money paid in cash = Rs. 1000.

Balance payment = Rs. (20000 – 1000) = Rs. 19000.

**16-** Mr. Thomas invested an amount of Rs. 13,900 divided in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. If the total amount of simple interest earned in 2 years be Rs. 3508, what was the amount invested in Scheme B?

- **A.**6400
- **B.**6500
- **C.**7200
- **D.**7500
- **E.**None of these

#### Answer & Explanation

**Answer** - **A** (6400)

**Explanation** -

Let the sum invested in Scheme A be Rs. x and that in Scheme B be Rs. (13900 - x).

Then,  $\left( \frac{x \times 14 \times 2}{100} \right) + \left( \frac{(13900 - x) \times 11 \times 2}{100} \right) = 3508$

$28x - 22x = 350800 - (13900 \times 22)$

$6x = 45000$

$x = 7500.$

So, sum invested in Scheme B = Rs. (13900 - 7500) = Rs. 6400.

**17-** The simple interest on a certain sum of money at the rate of 5% p.a. for 8 years is RS. 840. At what rate of interest the same amount of interest can be received on the same sum after 5 years?

- **A.**6%
- **B.**8%
- **C.**9%
- **D.**10%
- **E.**None of these

#### Answer & Explanation

**Answer** - **B** (8%)

**Explanation** -

S.I = Rs. 840, R = 5%, T = 8 years.

Principle = Rs.  $\left( \frac{100 \times 840}{5 \times 8} \right)$  = Rs. 2100

Now, P = Rs. 2100, S.I. = Rs. 840, T = 5 years.

Rate =  $\left( \frac{100 \times 840}{2100 \times 5} \right)\%$  = 8%

**18-** An automobile financier claims to be lending money at the simple interest, but he includes the interest every six months for calculating the principal. If he is charging an interest of 10%, the effective rate of interest becomes:

- **A.**10%
- **B.**10.25%
- **C.**10.50%
- **D.**10.75%
- **E.**None of these

#### Answer & Explanation

**Answer** - **B** (10.25%)

**Explanation** -

Let the sum be Rs. 100. Then,

S.I. for first 6 months = Rs.  $\frac{100 \times 10 \times 1}{100 \times 2}$  = Rs. 5.

S.I. for last 6 months = Rs.  $\frac{105 \times 10 \times 1}{100 \times 2}$  = Rs. 5.25

So, amount at the end of 1 year = Rs. (100 + 5 + 5.25) = Rs. 110.25.

Effective rate =  $(110.25 - 100) = 10.25\%$ .

**19-** The interest on a certain deposit at 4.5% per annum is Rs. 202.50 in one year. How much will the additional interest in one year be on the same deposit at 5% per annum?

- **A.**20.25
- **B.**22.50
- **C.**42.75
- **D.**75
- **E.**None of these

#### Answer & Explanation

**Answer** - **B** (22.50)

**Explanation** -

S.I. = Rs. 202.50, R = 4.5%, T = 1 year.

Principal = Rs.  $\frac{100 \times 202.50}{4.5 \times 1} = \text{Rs. } 4500$

Now, P = Rs. 4500, R = 5%, T = 1 year.

S.I. = Rs.  $\frac{4500 \times 5 \times 1}{100} = \text{Rs. } 225$

Difference in interest = Rs.  $(225 - 202.50) = \text{Rs. } 22.50$ .

**20-** A sum at Simple Interest amounts to Rs. 1000 in 2 years and Rs. 4000 in 5 years. Find the sum and rate of interest?

- **A.**1200
- **B.**1300
- **C.**1400
- **D.**1500
- **E.**None of these

#### Answer & Explanation

**Answer** - **D** (1500)

**Explanation** -

Amount in 2 years = Rs. 1000

Amount in 5 years = Rs. 4000

Interest for 3 years = 4000 – 1000 = Rs. 3000

$$R = \frac{100 \times SI}{PT} = \frac{100 \times 3000}{1000 \times 3} = 33 \frac{1}{3}$$

$$P = \frac{100 \times SI}{RT} = \frac{100 \times 1000}{3 \times 2}$$

$$= \frac{100 \times 1000 \times 3}{100 \times 2} = 1500$$