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IMPORTANT QUESTION FOR PSPCL+PATWARI

1. Out of a sum of Rs.850, a part was lent at 6% SI and the other at 12% SI. If the interest on the first part after 2 years is equal to the interest on the second part after 4 years, then the second sum is

A) Rs.350 B) Rs.280

C) Rs.170 D) Rs.220

Solution: (C)

Let the first part be x then second part be

(850 – x)

$$(x × 6 × 2)/100 = [(850 – x) × 12 × 4]/100$$

x = 850 × 4 – 4x

5x = 850 × 4

x = 680

Then second part 850-680=Rs 170.

2. A certain sum of money amounts to Rs.1300 in 2 years and to Rs. 1525 in 3.5 years. Find the sum and the rate of interest.

A) Rs.850, 10%

B) Rs.900, 12%

C) Rs.800, 13%

D) Rs.1000, 15%

Solution: (D)

1525 – 1300 = 225 for 1.5 years (3.5 – 2)

So for one year 225/1.5 = 150

then for 2 yrs interest is 150 +150 = 300

Then principal 1300 – 300 = 1000

Now 150/1000 × 100 = 15%

3. A person borrows Rs. 3000 for 2 years at 5% p.a. simple interest. He immediatelylends it to another person at 6 ¼ %p.a for 2 years. Find his gain in the transaction per year.

A) Rs.42 B) Rs.39.25

C) Rs.35 D) Rs.37.5

Solution: (D)

Gain in 2 years = [(3000 × 25/4 × 2/100)-

(3000 × 2 × 5)/100)] 375 – 300 = 75.

Gain in 1year = 75/2 = 37.5

4. If the simple interest on a certain sum of money is 4/25of the sum and the rate per cent equals the number years, then the rate of interest per annum is:

A) 4% B) 5%

C) 8% D) 10%

Solution: (A)

Let the principal be Rs x.

Then the SI = 4/25x

Rate of interest = Time

r = (100 × 4/25x)/(x × r)r2

= 400/25

r = 20/5 = 4%

5. A sum was put at simple interest at a certain rate for 5 years. Had it been put at 2% higher rate, it would have fetched Rs. 450 more. Find the sum?

A) Rs 4500

B) Rs 3200

C) Rs 3800

D) Rs 4200

Solution: (B)

P × (r + 2) × 5/100 − (P × r × 5)/100 = 450

5P (r + 2 − r)/100 = 450

P = Rs.4500.

6. Stephanie borrowed some money at 6% for the first 4 years, 8% for the next 6 years and 11% for the period beyond 2 years. If the total interest paid by her at the end of eleven years is Rs 5640, how much money did she borrow?

A) Rs 10000

B) Rs 6000

C) Rs 8000

D) Rs 9000

Solution: (B)

Let the sum be P. Then,

(P × 6 × 4)/100 + (P × 8 × 6)/100 + (P × 11 × 2)/100 = 5640.

24P/100 + 48P/100 + 22P/100 = 5640.

94P/100 = 5640

=>P = 6000.

7. A financier lend money at simple interest, but he includes the interest every six months for calculating the principal. If he is changing an interest of 10%, the effective rate of interest becomes?

A) 10%

B) 11.5%

C) 10.25%

D) 12%

E) None

Solution: (C)

Let the sum be Rs. 100. Then,

S.I. for first 6 months = (100 × 10 × 1/2)/ 100] = Rs.5

Next 6 months 10% of 5 is Rs 2 is added.

S.I. for last 6 months =Rs. [(102 × 10 × 1/2)/100]

= Rs.5.25

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

= Rs.110.25

R = (110.25 – 100) = 10.25%

8. Raghu purchases a coat for Rs.2400 cash or for Rs.1000 cash down payments and two monthly installments of Rs.800 each. Find the rate of interest.

A) 80%

B) 100%

C) 110%

D) 120%

Solution: (D)

Amount as a principal for 2 month

= 2400 – 1000 = 1400

At the rate of r% per annum after 2 months,

Rs.1400 will amount to Rs.1400 +

$\{(1400 \times r \times 2)/100 \times 12\}$

Total amount for 2 installments at the end of second

Month Rs.800 + (800 + $\{(800 \times r \times 1)/100 \times 12\}$)

Then, $1400 + (2800 \times r)/1200 = 1600 + (800 \times r)/1200$

R = 120%

9. A borrows 5000 at simple interest. At the end of 3 years, he again borrows 3000 and finally pays 2340 as interest after 6 years from the time he made the first borrowing. Find the rate of interest per annum.

A) 4%

B) 5.5%

C) 6%

D) 4.5%

E) None

Solution: (C)

Let r be the rate of interest

(5000 × 3x)/100 + (8000 × 3x)/100 = 2340

150x + 240x = 2340

x = 6

10. Arnav fixes the rate of interest 5% per annum for first 3 years and for the next 4 years 6 percent per annum and for the period beyond 7 years, 7 percent per annum. If Mr. Kumar lent out Rs.2500 for 11 years, find the total interest earned by him?

A) 1650 B) 1565

C) 1840 D) 1675

Solution: (D)

5% for 3 years = 15%

6% for 4 years = 24%

7.5% for 4 years = 28%

67% of 2500 = 1675

11. A certain sum of money amounts to rupees 2900 at 4% per annum in 4 years. In how many years will it amount to rupees 5000 at the same rate?

A) 30 B) 25

C) 22 D) 18

Solution: (B)

2900 = p + p × (4/100) × 4, p = 2500

5000 = 2500 + 2500 × (4/100) × t

5000 = 2500 + 100t

t = 25

12. A certain sum is invested for certain time. It amounts to Rs.600 at 10% per annum. But when invested at 5% per annum, it amounts to Rs.400. Find the time.

A) 40 years

B) 75 years

C) 50 years

D) 60 years

Solution: (A)

600 – P = (P × 10 × t)/100 — (I)

=> 6000 – 10P = Pt

400 – P = (P × 5 × t)/100 —- (II)

=> 8000 – 20P = Pt

Equate (I) and (II), 6000 – 10P = 8000 – 20P

=>P = 200

Substitute P in (I) then

400 = (200 × 5 × t)/100

=> t = 40 yrs.

13. A lent Rs.8000 to B for 2 years and Rs.6000 to C for 4 years on simple interest at the same rate of interest and received Rs.1840 in all from both of them as interest.

The rate of interest per annum is

A) 4.6% B) 8.4%

C) 6.3% D) 10%

Solution: (A)

Rate of interest be r%

Then

(8000 × 2 × R)/100 + (6000 × 4 × R)/100 = 1840

160R + 240R = 1840

400R = 1840

R = 4.6 % p.a

14. A Man lends Rs.1540 for five years and Rs.1800 for four years. If he gets Rs.1788 as interest on both amounts, what is the rate of interest?

A) 10%

B) 12%

C) 15%

D) 8%

Solution: (B)

Let the interest rate be r%

We know that,

S.I = PTR/100

=> (1540 × 5 × r)/100 + (1800 × 4 × r)/100

= 1788

=> r = 178800/14900 = 12%

15. Two persons P and Q borrowed Rs.40, 000/- and Rs.60,000/- respectively from R at different rates of simple interest. The interest payable by P at the end of the first four years and that payable by Q at the end of the first three years is the same. If the total interest payable by P and Q for one year is Rs.8, 400/- then at what rate did Q borrow the money from R?

A) 8

B) 10

C) 12

D) 9

Solution: (B)

$40000 \times 4 \times R1/100 = 60000 \times 3 \times R2/100$

$R1 = (9/8) R2$

1 year interest

$(40000 \times 1 \times R1)/100 + (60000 \times 1 \times R2)/100 = 8400$

$4R2 + 6R2 = 84$

Then substitute $4(9/8 R2) + 6R2 = 84$

=> R2 = 8

16. R borrowed a sum of RS. 6000 from T at the rate of 14% for 2 years. She then added some more money to the borrowed sum and lent it to S at the rate of 18% of simple interest for the same time. If R gained Rs.650 in the whole transaction, then what sum did he lend to S?

A) Rs.6427.12 B) Rs.8015.41

C) Rs.6472.22 D) Rs.7541.2

Solution: (C)

Let the money lent to S be Rs.x

Therefore,

x × (18/100) × 2 − 6000 × (14/100) × 2 = 650

=> x = 6472.22

17. The rate of interest on a sum of money is 4% per annum for the first 2 years, 6% per annum for the period next 4 years, 8% per annum for the period beyond 6 years. If the simple interest accrued by the sum for a total period of 9 years is Rs.1680, what is the sum?

A) Rs.3000

B) Rs.5000

C) Rs.4700

D) Rs.5500

Solution: (A)

SI at the rate of 4% for 2 years,

= (P × 4 × 2)/100 = 8P/100

SI at the rate of 6% for 4 years,

(P × 6 × 4)/100 = 24P/100

SI for the next 3 years

SI = (P × 8 × 3)/100 = 24P/100

Total SI = 8P/100 + 24P/100 + 24P/100

=>P = (1680 × 100)/56 = 3000

18. S has lent some money to A at 6% per annum and B at 8% per annum. At the end of the year he has gain the overall interest at 7% per annum. In what ratio has he lent the money to A and B?

A) 3:8 B) 1:2

C) 2:5 D) 1:1

Solution: (D)

6   8

   7

1   1

= 1 :   1

19. What is the ratio of the simple interest earned by certain amount for 4 years and 8 years at the same rate of interest?

A) 3:2

B) 2:1

C) 1:2

D) 4:3

Solution: (C)

Ratio = 4PR / 8PR = 1 : 2

20. If a principal becomes amount of Rs.14500 at

2/14/7%rate of interest in 3years at simple interest. Find the S.Ion principal?

A) Rs.4250 B) Rs.4300

C) Rs.4400 D) Rs.4350

Solution: (D)

R =2/14/7% =17

S.I remains same in all years so...

(P)7 + 1 + 1 + 1 = 10(A),

10-7 = 3S.I

10 = 14500

1 = 1450

3 = 4350

21. If the principal become 6 fold on S.I in 10 years then find in how many years it will be 12 fold?

A) 24 years B) 22 years

C) 12 years D) 20 years

Solution: (B)

P ………………..6P

6P – P = 5P interest

5P = 10 years

P = 2 years

11 P = 22 years

22. A sum becomes triple in 6 years at S.I. The same sum will become 19 times in how many years?

A) 50 years B) 48 years

C) 54 years D) 57 years

Solution: (C)

SI = A – P => A = 3P as sum triples

SI = 3P – P = 2P in 6 years

In 19 times SI = 18 P—54 years (2: 6 hence 18 = 54)

FOR TRICKS AND SHORT METHOD

CLICK HERE

1. Find the simple interest on Rs. 5000 at 8% per annum in 3 years.

2. Rs. 5000 amounts to Rs. 5700 in 1 year at simple interest. What will be Rs. 7000 in 2 years.

3. A certain sum of money becomes 3 times of itself in 50 years. Find the Rate of interest.

4. A certain sum of money becomes 35 times of itself in 17 years. Find the Rate of Interest.

5. A certain sum of money becomes 5/4times of itself in 4 years. Find the Rate of interest.

6. A certain sum of money becomes 41/40 times of itself in 4 years. Find the Rate of interest.

7. At what rate per annum will a sum of Rs. 5000 amount to Rs. 6000 in 4 years?

8. In what time will Rs. 1200 earn an interest of Rs. 240 at 5% per annum?

9. In what time does a sum of money becomes 4 times of itself at simple interest rate of 15% per annum.

10. In what time does a sum of money becomes 3.6 times of itself at simple interest rate of 13% per annum.

11. A sum of money becomes 3 times of itself in 5 years at certain simple Interest. In what time it will become 9 times of itself.

12. If the simple interest on a certain sum of money after $6\frac{1}{4}$ years is $\frac{3}{8}$ of the principal, then find the rate of interest per annum.

13. If the simple interest on a certain sum of money for 2 years is one-fifth of the principal, then find the rate of interest per annum.

14. A sum of money becomes 9 times of itself in 11 years at simple interest. In what time it will become 33 times of itself.

15. A sum of money becomes 5 times of itself in 5 years at simple interest. In what time it will becomes 7 time of itself.

16. A sum of money is lend at 15% per annum for $3\frac{1}{2}$ years and same sum lends for 5 years at 15% per annum. If the difference of S.I. from both cases is Rs. 144. Find the sum lend.

17. A sum of Rs. 2400 amounts to Rs. 3350 in 4 years at simple interest. If the rate of interest is increased by 1% it would amount to how much?

18. If the difference between the simple interest on a certain sum of money for 4 years at $2\frac{1}{2}$ % per annum and the simple interest on the same sum for the same period at 3% per annum is Rs. 60, then find the sum

19. A sum was put at simple interest at a certain rate for 4 years. Had it been put at 2% higher rate, it would have fetched Rs. 56 more. Find the sum.

20. A sum of Rs. 4100 amounts to Rs. 6666 in 5 years at simple interest. If the rate of interest had been increased by 2%, it would amount to how much?

21. The amount Rs. 2,100 became Rs. 2,352 in 2 years at simple interest. If the interest rate is decreased by 1%, what is the new interest ?

22. A sum of Rs. 5000 is lent out in two parts in such a way that the first part at 4% per annum and second part at 5% per annum. If the total interest received after two years is Rs. 440. Find the sum lent at 4% and 5%?

23. A sum of Rs. 6000 is lent out in two part in such a way that the first part at 5% and second at 7% per annum. If the total interest received after 3 years is Rs. 1050, find the sum lent out in each part.

24. A sum of Rs. 13000 is lent out in 3 parts in such a way that Ist Part at 5% for 6 years, IInd at 4% for 5 years and IIIrd part at 10% for 4 years. If the SI Received from each part is equal then find each part that lent.

25. A sum of Rs. 10,000 is lent out in two parts in such a way that Ist part at 5% p.a. and IInd part at 6% p.a. If the S.I. Received on sum given at 5% is Rs. 76.50 more than the S.I. on sum given at 6% in 1 year. Find the sum lend at 6% per annum?

26. A Father decided to divide Rs. 120,000 between his two sons. In such a way that they both receive same amount after the age of 18 years. Current age of his sons is 12 and 14 years. If the Rate of interest is 5% find the share received by his sons.

27. A sum of Rs. 1586 is divided among three such parts that amount obtained on these parts of money after 2, 3 and 4 years, respectively at the rate of 5% per annum

remains equal. Find such three parts of the sum.

28. The ratio of Principal and Amount is 4 : 5 in a certain time. It will become 5 : 7 after 3 years. Find the rate of interest.

29. A sum of money Amounts to Rs. 756 in 2 years and Rs. 873 in $3\frac{1}{2}$ years. Find the Principal and Rate of interest?

30. A sum of money Amounts to Rs. 1016 in 3 years and Rs. 1304 in 7 years. Find the Rate and Principal?

31. If a certain sum of money at simple interest amounts to Rs. 5184 in 2 years and to Rs. 5832 in 3 years, what is the sum and the rate of interest?

32. If S.I is added to the sum after 10 years, Then in how much time Rs. 1000 will become Rs. 2000 at 5% per annum.

1. Rs. 1200

2. Rs. 8960

3. **4%**

4. **200%**

5. $6\frac{1}{4}$ **%.**

6. **5/8**

7. **5%**

8. **4 years**

9. **20 years**

10. **20 years**

11. **20 years**

12. **6%**

13. **10%**

14. **44 years**

15. $7\frac{1}{2}$ **years**

16. **Rs. 640**

17. **Rs. 3446**

18. Rs. 3000

19. Rs. 700

20. Rs. 7076

21. Rs. 210

22. Rs. 2000, Rs. 3000

23. Rs. 3500, Rs. 2500

24. Rs. 4000, Rs. 6000, Rs. 3000

25. Rs. 3850

26. Rs. 57600, Rs. 62400

27. Rs. 552, Rs. 528, Rs. 506

28. 5 years

29. 13%, Rs. 600

30. Rs. 800, 9%

31. Rs. 3888, $16\frac{2}{3}$

32. $16\frac{2}{3}$

THANK YOU