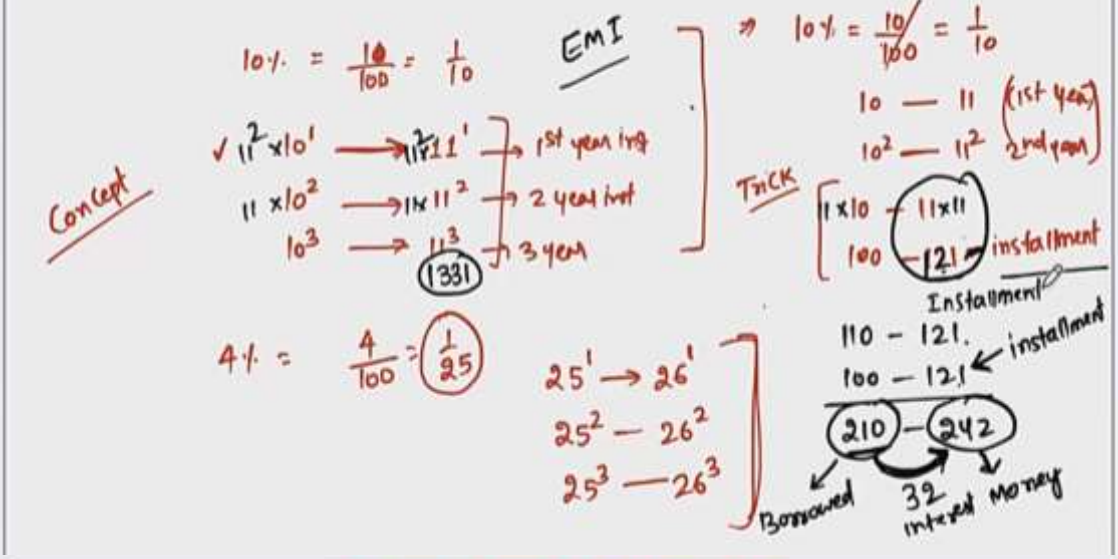
Compound Interest- instalment

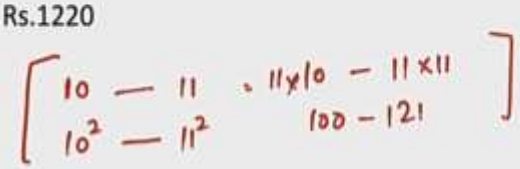
CONCEPTS: CI- INSTALLEMENT BASED PROBLEMS



CI- INSTALLEMENT BASED PROBLEMS

Q1. A sum of Rs.2100 is to be paid back in 2 equal installments. How much is each installments of the interest is compounded annually at 10% per annum ?

a. Rs.1210 b. Rs.1240 c. Rs.1230 d. Rs.1220



$= \frac{2100}{210} \times 121$

$= 1210$

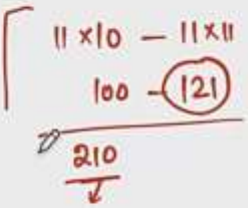
$= 110 — 121$
$100 — 121$
$210 —$

Ammount borrowed

CI- INSTALLEMENT BASED PROBLEMS

Q2. A sum of Rs.4,620 is to be paid back in 2 equal installments. How much is each installment(in Rs). If the interest rate is compounded annually at 10% per annum?

a. Rs.2,662 b. Rs.2,420 c. Rs.2,552 d. Rs.2,750



22

$\frac{4620}{210} \times 121$

$= 22 \times 121$

$= 2420$
242
2662

CI- INSTALLEMENT BASED PROBLEMS

Q3. A man borrowed some money and returned it in two equal installments of Rs.3,025 each. If the rate of interest is 10% per annum, compound annually, find the sum borrowed?

a. Rs.5,575 b. Rs.6,250 c. Rs.6,525 d. Rs.5,250

Sum

Installment = 3025

rate = 10%

Sum = ?

$11 \times 10 - 11 \times 11$

$100 - 121$

210

3025

5-5=0

$= \frac{3025}{121} \times 210$

$= 25 \times 210$

$5000 + 250$

5250

CI- INSTALLEMENT BASED PROBLEMS

Q4. Rahul takes a sum of Rs. 2310 as a loan. He has to repay this in two equal annual installments. If the rate of interest is 20% compounded annually, what percent of the principal amount taken by Rahul is the total interest paid by him.

1. 20% 2. 40.9% 3. 130.9% 4. 30.9%

Sum = 2310 ✓

TCS Question

$20\% = \frac{20}{100} = \frac{1}{5}$

$6 \times 5 - 6 \times 6$

$25 - 36$

$55 - 72$

17

42

210

$= \frac{2310}{55} \times 17$

$= 680 + 34$

Interest = 714

30.9%

$= \frac{714}{2310} \times 100$

$23 \times 4 = 92$

$23 \times 3 = 69$

CI- INSTALLEMENT BASED PROBLEMS

Q5. Loan is to repaid in two equal yearly installments. If the rate of interest is 10% per annum, compounded annually, and each installment is Rs.6,897, then find the total interest charged.

1. Rs.1,644 2. Rs.1,824 3. Rs.1,914 4. Rs.1,734

Installment = 6897

$11 \times 10 - 11 \times 11$

$100 - 121$

210 242

32

$= \frac{6897}{121} \times 32$

627 57

627

57 2

32

114

171

1824

11) 6897 (6

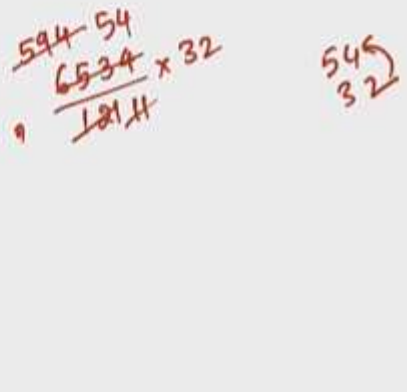
66

2

CI- INSTALLEMENT BASED PROBLEMS

Q6. Loan is to repaid in two equal yearly installments. If the rate of interest is 10% per annum, compounded annually, and each installment is Rs.6,534, then find the total interest charged.

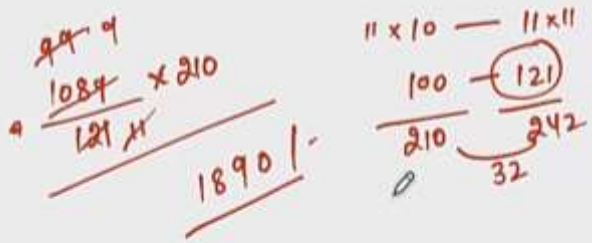
1. Rs.1,728 2. Rs.1,867 3. Rs.1,642 4. Rs.1,579



CI- INSTALLEMENT BASED PROBLEMS

Q7. A man borrowed money and paid back in two equal installments of Rs.1,089, at 10% compound interest compounded annually for 2years. What was the sum(in Rs) borrowed?

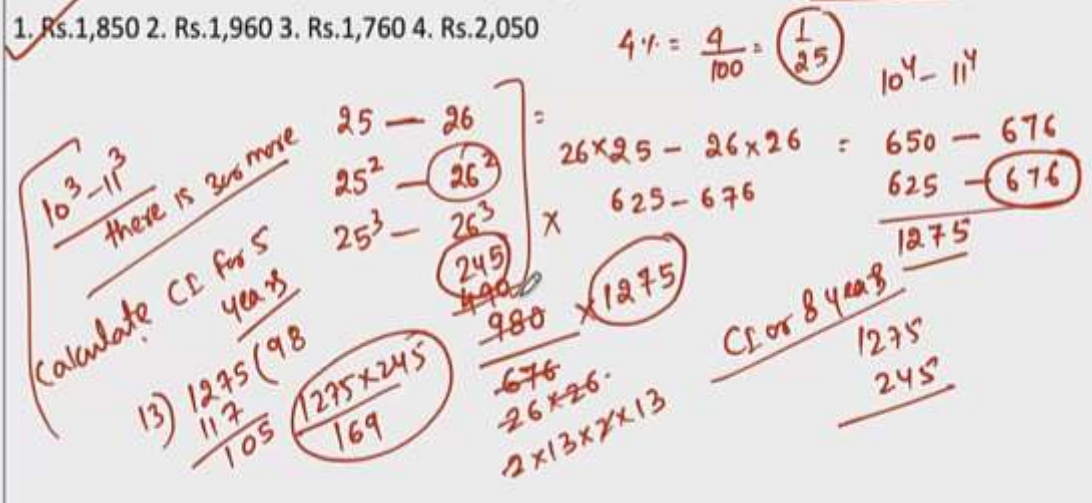
1. Rs.1,890 2. Rs.2,178 3. Rs.1,800 4. Rs.2,090



CI- INSTALLEMENT BASED PROBLEMS

Q8. A man borrowed money and paid back in two equal installments of Rs.9,80, at 4% compound interest compounded annually for 2years. What was the sum(in Rs) borrowed?

1. Rs.1,850 2. Rs.1,960 3. Rs.1,760 4. Rs.2,050



CI- INSTALLEMENT BASED PROBLEMS

Q9. A sum of Rs. X was borrowed and paid back in two equal yearly installements, each of Rs.35,280 . If the rate of interest was 5%, compounded annually, then the value of x is.

1. Rs.64,400 2. Rs.65,600 3. Rs.64,800 4. Rs.65,400

5% = 1/20

20 — 21 → 21×20 − 21×21

$20^2 - 21^2$ → 400 − 441

Sum = ?

Installment = 35,280

r = 5%

80

35,280 × 820 / 441 = 65600

21×21

420 − 441

400 − 441

820

CI- INSTALLEMENT BASED PROBLEMS

Q10. Neeraj took Rs.6,800 as a loan which along with interest is to be repaid in two equal annual installments. If the rate of interest is 12 ½% compounded annually, then the value of each of the installements is.

1. Rs.8,100 2. Rs.4,150. Rs.4,050 4. Rs.4,000

Sum = 6,800

installment

r = 25/2 %

= 25/2 × 1/100

= 1/8

9×8 — 9×9

64 — 81

136 — 162

6800 × 81 / 136 → 2, 25

68×100×9×9 / 34×4

= 50×81

= 4050

CI- INSTALLEMENT BASED PROBLEMS

Q11. A loan of Rs.8,925 is to be paid back in two equal half-yearly installments. How much is each installment if the interest is compounded half-yearly at 8% per annum?

1. Rs.4,372 2. Rs.4,732. Rs.4,654 4. Rs.4,564

Sum = 8925

installment

8% → 8/2 = 4%

4% = 4/100 = 1/25

26×25 − 26×26

625 — 676

1275

17

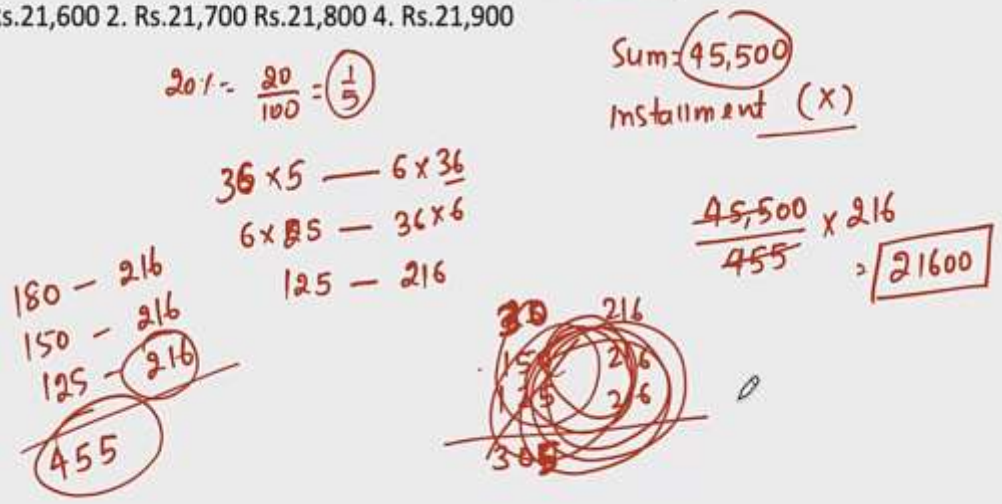
8925 × 676 / 1275

255

CI- INSTALLEMENT BASED PROBLEMS

Q12. A sum of Rs.45,500 is to be paid back in 3 equal annual installments. How much is each installments if the interest is compounded annually at 20% per annum?

1. Rs.21,600 2. Rs.21,700 Rs.21,800 4. Rs.21,900



CI- INSTALLEMENT BASED PROBLEMS

Q13. A sum of Rs.25,220 is to be paid back in 3 equal annual installments. How much is each installments if the interest is compounded annually at 5% per annum?

1. Rs.9361 2. Rs.9261 Rs.9621 4. Rs.9216