

# Loan Prepayment Examples

This document presents **two clear, separate worked examples** using the same base loan, to illustrate: 1. **Partial (normal) prepayment**, and 2. **Full prepayment**

The objective is to show how balances, interest, and loan closure behave in each case, without mixing the two concepts.

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## Base Loan Parameters (Common to Both Examples)

- Loan Amount (Principal): **16,700,000**
- Tenure: **48 months**
- Monthly Interest Rate: **1.67%**
- Annual Interest Rate (nominal): **20%**
- EMI: **508,543.02**

Interest is calculated monthly on the **actual outstanding balance**.

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## Example 1: Partial (Normal) Prepayment at Installment 3

### Installment 1

- Opening Balance: 16,700,000.00
- Interest:  $16,700,000 \times 1.67\% = 278,890.00$
- Principal:  $508,543.02 - 278,890.00 = 229,653.02$
- Closing Balance: 16,470,346.98

### Installment 2

- Opening Balance: 16,470,346.98
- Interest: 275,053.79
- Principal: 233,489.23
- Closing Balance: 16,236,857.75

### Installment 3 (EMI + Partial Prepayment)

Assume an **extra principal prepayment of 2,000,000**.

- Opening Balance: 16,236,857.75
- Interest: 271,152.53
- EMI Principal: 237,390.49
- Extra Prepayment (Principal-only): 2,000,000.00
- Total Principal Paid: 2,237,390.49

- Closing Balance: 13,999,467.26

**Effect:** - Interest for installment 3 is unchanged. - Future interest is reduced because the outstanding balance is lower. - EMI remains the same, but the loan will end earlier (or EMI may be recalculated, depending on policy).

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## Example 2: Full Prepayment at Installment 5

### Installments 1–4 (Normal EMI Payments)

By the end of installment 4, the loan balance is:

- Outstanding Balance after Installment 4: **15,758,115.35**
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### Installment 5 (Full Prepayment)

The borrower decides to **fully settle the loan** at installment 5.

#### Step 1: Compute Interest for Installment 5

- Interest:  $15,758,115.35 \times 1.67\% = 263,160.53$

#### Step 2: Compute Full Prepayment Amount

- Outstanding Principal: 15,758,115.35
- Accrued Interest: 263,160.53

#### Total Payoff Amount:

$$15,758,115.35 + 263,160.53 = \mathbf{16,021,275.88}$$

#### Step 3: Apply Payment

- Interest Paid: 263,160.53
- Principal Paid: 15,758,115.35
- Closing Balance: **0.00**

The loan is immediately **closed**, and no further installments exist.

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## Key Distinction Summary

Aspect	Partial Prepayment	Full Prepayment
Payment scope	Extra amount toward principal	Entire outstanding principal

Aspect	Partial Prepayment	Full Prepayment
Interest for current period	Charged	Charged (if period elapsed)
Future EMIs	Continue	Stop immediately
Loan end	Earlier or EMI reduced	Immediate closure

## Final Notes

- Partial prepayment reduces **future interest** but does not close the loan.
- Full prepayment clears **both accrued interest and all principal**, bringing the balance to zero.
- In both cases, interest is always computed on the **actual outstanding balance**.

This separation keeps repayment schedules, repayment statements, and balances fully consistent.