

MATHS

Complete

SIMPLE INTREST

(साधारण ब्याज)



एक नये अंदाज में

Gagan **Pratap** Sir



Simple Interest

$$SI = \frac{P \times R \times T}{100}$$

P = Principal

R = Rate (%)

T = Time (in years)



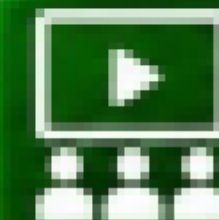
NO. OF
SHEETS -

01



NO. OF
QUESTIONS -

180+



NO. OF
CLASSES -

08+



Expected
Questions -

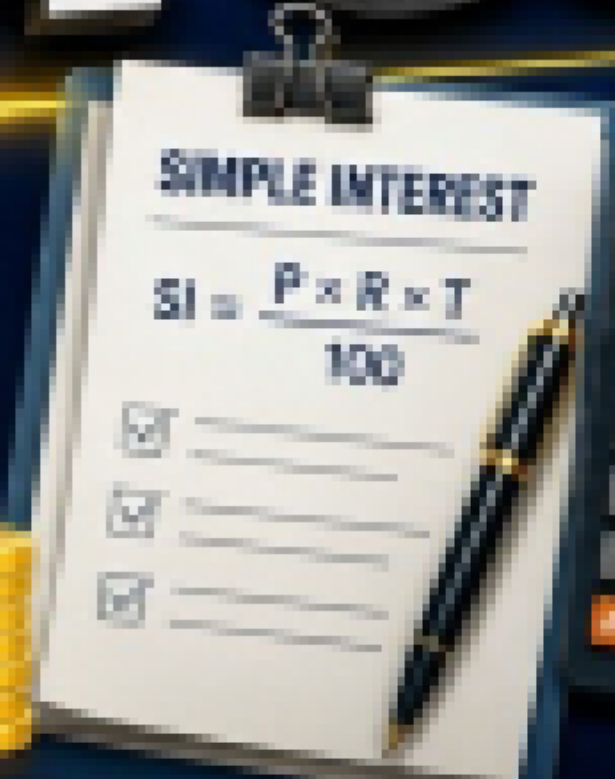
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BOOST
YOUR SCORE



MASTER
THE CONCEPT



$$SI = \frac{P \times R \times T}{100}$$

SI = Simple Interest
P = Principal
R = Rate of Interest
T = Time (in years)

SIMPLE INTEREST

$$A = P \left(1 + \frac{R}{100} \right)^T$$

(CI Formula)



$$R\% = \frac{R}{100}$$



Simple Interest पढ़ने के लिये Percentage और Ratio Chapter आना बहुत जरूरी है।



Simple Interest पढ़ने के बाद **Compound Interest** को अच्छे से समझा जा सकता है।

FORMULAS

$$SI = \frac{P \times R \times T}{100}$$

$$CI = P \left(1 + \frac{R}{100} \right)^T - P$$

$$\text{Amount} = P + SI$$

$$CI = \text{Amount} - P$$

पहले ये Chapters जरूरी हैं

PERCENTAGE



+

RATIO

$$a : b = \frac{a}{b}$$



SIMPLE INTEREST



COMPOUND INTEREST



TERMINOLOGY (शब्दावली)

Principal (मूलधन)

P

Rate of Interest (ब्याज दर)

R%

Simple Interest (साधारण ब्याज)

SI

Time (समय)

T

Amount (मिश्रधन)

A

मूलधन (PRINCIPAL) :- उधार ली गयी राशि

मिश्रधन (Amount) :- ने चुकायी गयी राशि

समय (Time)



$$SI_5 = 8000 \text{ Rs.}$$

$$\text{प्रचक्रा S.I} = \frac{8000}{5} = 1600 \text{ Rs.}$$

P

25000Rs.

T (time of debt)

5yrs

Simple Interest (साधारण ब्याज) = 8000 Rs ✓

Amount (मिश्रधन) = 25000Rs + 8000Rs

A = 33000 Rs



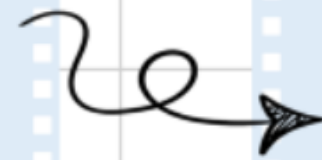
$$A = P + S.I$$

$$P = A - S.I$$

$$S.I = A - P$$



Rate of Interest
(ब्याज की दर)



100 रुपए पर 1 साल में लगने वाले ब्याज को ही (Rate of interest) कहते हैं।

Ex:

$$\begin{array}{ccc} P & & A \\ 100\text{rs} & \xrightarrow[\text{SI} = +16\text{Rs/p.a.}]{1\text{yr}} & 116\text{rs} \end{array}$$

$$\frac{+16}{100} \times 100\% = 16\% \text{ Per annum (प्रतिवर्ष)}$$



P

ब्याज

25000 Rs

5yr



8000 Rs

25000 Rs

1yr



1600 Rs (1yr का S.I)

1 Rs

1yr



$\frac{1600}{25000}$ Rs

100 Rs

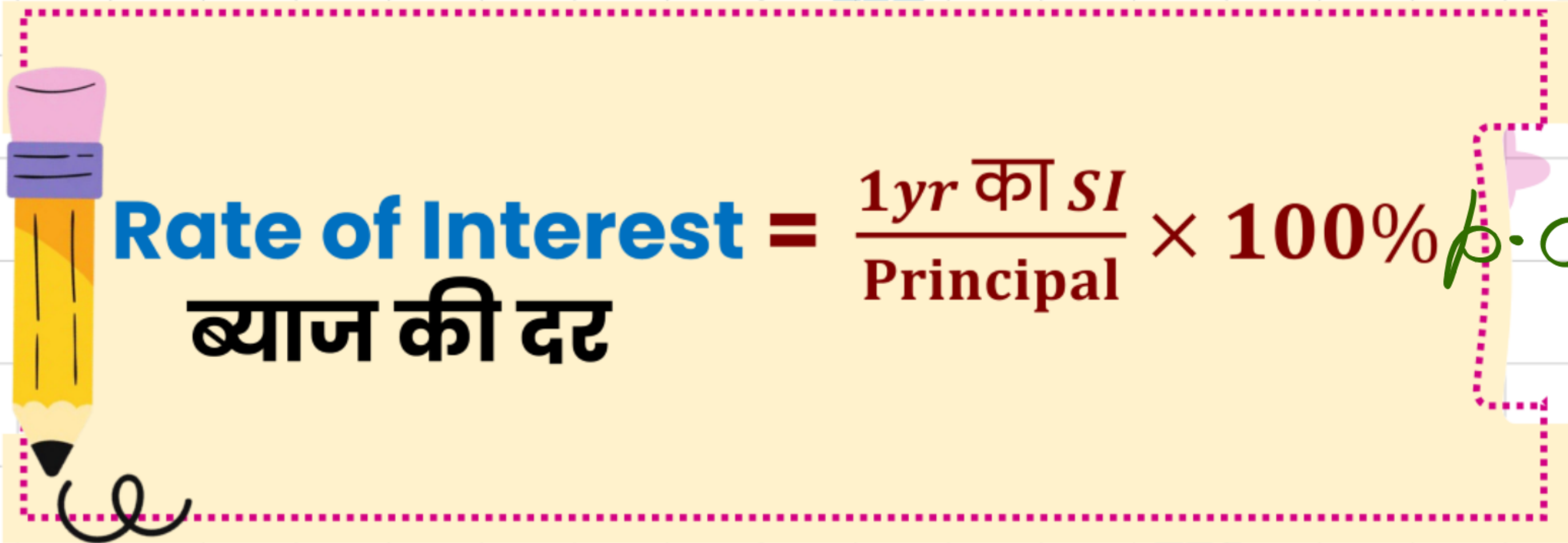
1yr



$\frac{1600}{25000} \times 100 \text{ Rs} = 6.4 \text{ Rs}$

ब्याज की दर = 6.4% p.a

$$\text{ब्याज की दर} = \frac{1\text{yr का S.I}}{P} \times 100\%$$


$$\text{Rate of Interest} = \frac{1\text{yr का } SI}{\text{Principal}} \times 100\%$$

ब्याज की दर

p.o

IF, Rate of Interest = $R\%$ p.a

ब्याज

मूलधन

100 $\xrightarrow{1\text{ yr}}$

R

100 $\xrightarrow{T\text{ yr}}$

$R \cdot T$

1 $\xrightarrow{T\text{ yr}}$

$\frac{R \cdot T}{100}$

P $\xrightarrow{T\text{ yr}}$

$\frac{P \cdot R \cdot T}{100}$

$$R\% \cdot p \cdot a = \frac{R}{100}$$

$\xrightarrow{\text{Principal}}$

$$\text{S.I.} = \frac{PRT}{100}$$

$$\text{S.I.} = P \times R\% \times T$$

साधारण ब्याज, मूलधन, दर और समय के समानुपाती होता है

Simple interest is directly proportional to the principal, rate, and time.

$$S.I. = P \times R\% \times T$$

$$S.I. \propto P \quad \checkmark$$

$$S.I. \propto R\% \quad \checkmark$$

$$S.I. \propto T \quad \checkmark$$



$$SI = P \times R\% \times t$$

$$A = P + SI$$

$$A = P + P \times R\% \times t$$

$$A = P \cdot (1 + R\% \times t) \quad \checkmark$$

$$A = P \left(1 + \frac{R}{100} \times t \right)$$

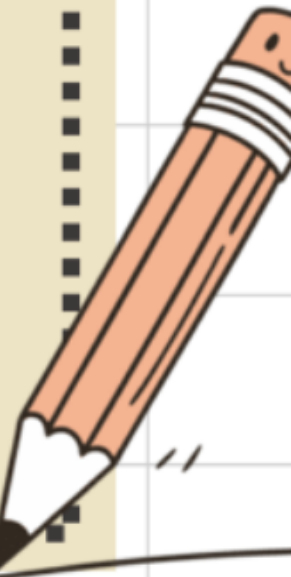


P	Rate of interest	Time ^(1 year)	S.I (in%) = $R\% \times t$	A = P + SI
100%	9% p.a	5 yrs	$9\% \times 5 = 45\%$	145%
100%	14% p.a	3 yrs	$14\% \times 3 = 42\%$	142%
60 unit	18.33% p.a	4 yrs	$11 \times 4 = 44 \text{ unit}$	104 unit

$18.33\% \text{ p.a} = \frac{11}{60} \times 100$

 (11) is S.I.

 (60) is P




$$18.33\% = 10\% + 8.33\%$$

$$= \frac{1}{10} + \frac{1}{12}$$

$$= \frac{6+5}{60} = \frac{11}{60}$$