

GATE 2021

GENERAL APTITUDE

धमाकेदार ट्रिक के साथ 🔥🔥

**PERCENTAGE- 2
QUESTIONS DISCUSSION**

38

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AVINASH SIR

AVINASH SINGH SIR

GATE | EE (CE)



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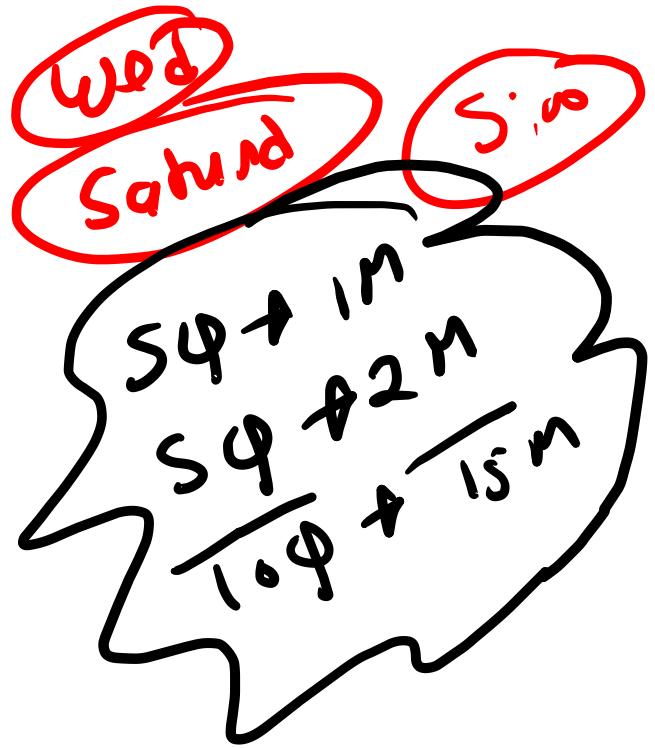


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2021

Analytical Aptitude

- Venn Diagram
- Syllogism
- Series
- Coding & Decoding
- Clock & Calendar
- Distance & Direction
- Blood Relation
- Seating Arrangements
- Puzzle

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Quantitative Aptitude

- Time & Work
- Pipes & Cisterns
- Ratio & Proportion
- Number System
- Sequence & Series
- Average
- Time, Speed & Distance
- Percentage
- Profit, Loss & Discount
- Allegation & Mixture
- Powers, exponents and logarithms
- Algebra
- Permutation & Combination
- Probability
- Data Interpretation
- Mensuration and geometry

Spatial Aptitude

- Shape Matching - Two Dimensional
- Visual Comparison - Two Dimensional
- Group Rotation - Two Dimensional
- Combining Two Dimensional Shapes
- Cube Views in Three Dimensions
- Cubes in Two and Three Dimensions
- Other Solids in Two and Three Dimensions
- Block Counting in Three Dimensions
- Two-Dimensional Mirror Reflections
- Paper folding and Cutting

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~~Home Work Question~~

A number is increased by 84, it becomes 107% of itself. What is the number?

- A) 600
- B) 900
- C) 1500
- D) 1200

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Today's Class Agenda

- ✓ Basic Concept of Percentage
- ✓ Practice questions based on Basic Concept

Some important term related to percentage

- ✓ **Fraction to percentage**
- ✓ **Percentage to fraction**
- **Change**
- **To increase & Decrease a given number by given percent**
- **Shortcut calculation in percentage**

Change

Absolute
change

$$\begin{array}{r} \text{2019} \\ \rightarrow \text{₹ 4000} \\ \hline \text{2020} \\ \leftarrow \text{₹ 6000} \end{array}$$

$$\begin{aligned} & 6000 - 4000 \\ & = 2000 \end{aligned}$$

Percentage
Change

$$\begin{aligned} & \frac{6000 - 4000}{4000} \times 100 \\ & = \frac{2000}{4000} \times 100 = 50\% \end{aligned}$$

To increase & Decrease a given number by given percent

$$\begin{aligned}x \uparrow \text{by } \underline{20\%} &= x + \frac{x}{100} \times 20 \\&= x + \frac{x}{5} = \frac{6x}{5} \\&= \underline{1.2x}\end{aligned}$$

$$\begin{aligned}x \uparrow \text{by } 30\% &= 1.3x \\x \uparrow \text{by } 80\% &= 1.8x \\x \uparrow \text{by } 5\% &= 1.05x \\x \uparrow \text{by } \underline{100\%} &= 2x\end{aligned}$$

$$\begin{aligned}x \uparrow \text{by } 30\% &= 4x \\" \quad " \text{ by } 500\% &= 6x\end{aligned}$$

~~$x \uparrow$~~

$$\begin{aligned}x &\xrightarrow{400\% \uparrow} 5x \\x &\xrightarrow{140\% \uparrow} 15x \\x &\xrightarrow{9900\% \uparrow} 100x\end{aligned}$$

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To increase & Decrease a given number by given percent

$$x \text{ } \downarrow \text{ by } 20\% = x - \frac{x}{100} \times 20$$
$$= x - \frac{x}{5} = \frac{4x}{5} = \underline{\underline{.8x}}$$

$$x \downarrow \text{ by } 10\% = 0$$
~~$$x \downarrow \text{ by } 40\%$$~~

$$x \downarrow \text{ by } 10\% = .9x$$

$$\text{,} \quad 50\% = .5x$$

$$\text{,} \quad 90\% = .1x$$

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✓ Shortcut in percentage calculation:-

Easy to calculate any value of 1%, 10%, 20%,
25%, 33.3%, 50% & 100%

$$\begin{aligned} 1\% \text{ of } 300 &= 3 \\ &= 3^0 \\ &= 60 \\ &= 75 \\ &= 100 \\ &= 150 \\ &= 300 \end{aligned}$$

$\times 2$ ($\frac{10}{100}$ ") $\times 2$

$\times 2$ ($\frac{25}{100}$ ") $\times 2$

$\times 2$ ($\frac{33.3}{100}$ ") $\times 2$

$\times 2$ ($\frac{50}{100}$ ") $\times 2$

$\times 2$ ($\frac{100}{100}$ ") $\times 2$

$$\begin{aligned} 12.5\% \text{ of } 300 &= \left(\frac{300}{100} \right) \times 12.5 \\ &= 37.5 \end{aligned}$$

$12.5\% = 10\% + 2.5\%$

$(\frac{30}{100}) (\frac{75}{100})$

$= 37.5$

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① $72\% \text{ of } \cancel{300} \Rightarrow 70\% + 2\%$
 $\hookrightarrow 30 \times 7 + 3 \times 2$
 $\hookrightarrow 210 + 6 = \underline{\underline{216}}$

② $98\% \text{ of } 300 \Rightarrow 100\% - 2\%$
 $\hookrightarrow 300 - 6 = \underline{\underline{294}}$

③ $45\% \text{ of } \cancel{300} \Rightarrow 50\% - 5\%$
 $\hookrightarrow 150 - 15$
 $= \underline{\underline{135}}$

77 % of 980 \Rightarrow $\frac{80\% - 3\%}{5}$ or $\frac{75\% + 2\%}{4}$

$$\begin{array}{r} \frac{98 \times 8}{800 - 16 - 29} \\ = 284 - 29 \\ = \underline{\underline{755}} \end{array}$$

$$\frac{78}{4} \times 3 + 20$$

① $19\% \text{ of } 999 \Rightarrow 19\%$

≈ 100

② $39\% \text{ of } 798 \Rightarrow 39\%$

≈ 80

$4^{\circ} - 1^{\circ} = 3^{\circ}$

$32^{\circ} - 8 = 24^{\circ}$

$$320 \xrightarrow[100\%]{+ 32} 320 + 32 = 352 \xrightarrow[100\%]{=}$$

$$320 \xrightarrow[100\%]{- 32} 320 - 32 = 188 \xrightarrow[100\%]{=}$$



1) If 18% of a number is 720, then what is 81% of the same number?

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A) 2280

B) 1620

C) 3240

D) 3160

$$\begin{array}{ccc} 18\% & \xrightarrow{\quad 720 \quad} & \times \frac{1}{2} \\ \times \frac{1}{2} \curvearrowleft & \xrightarrow{\quad 360 \quad} & \curvearrowright \times 9 \\ \times 9 \curvearrowleft & \xrightarrow{\quad 3240 \quad} & \curvearrowright \times 9 \end{array}$$

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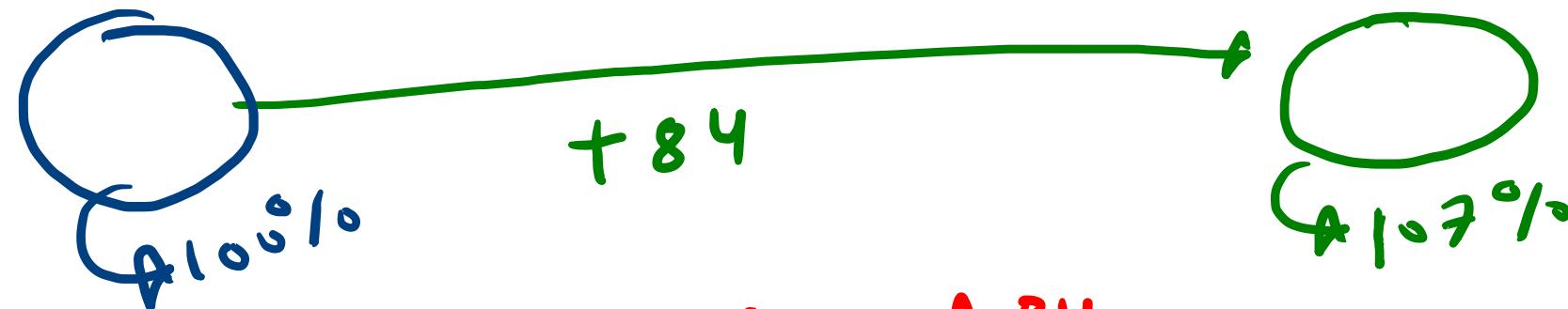
2) A number is increased by 84, it becomes 107% of itself. What is the number?

A) 600

B) 900

C) 1500

D) 1200



$$7\% \rightarrow 84$$

$$1\% \rightarrow 12$$

$$100\% \rightarrow 1200$$

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- 3) The number of students in a class is increased by 20% and the number now becomes 66. Initially the number was
- A) 45 B) 50 C) 55 D) 60

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- 4) In marriage party 32% are women, 54% are men and there are 196 children. How many men are there in the marriage party.
- A) 756 B) 448 C) 332 D) 324

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- 5) In a office, 40% of staff is female. 70% of the female staff and 50% of the male staff are married. The percentage of the unmarried staff in the office is
- A) 64 B) 60 C) 54 D) 42

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~~Home Work Question~~



A village lost 12% of its goats in a flood and 5% of remainder died from diseases. If the number left now is 8360, what was the original number before the flood?

- A) 1000
- B) 10,000
- C) 1,00,000
- D) 8360

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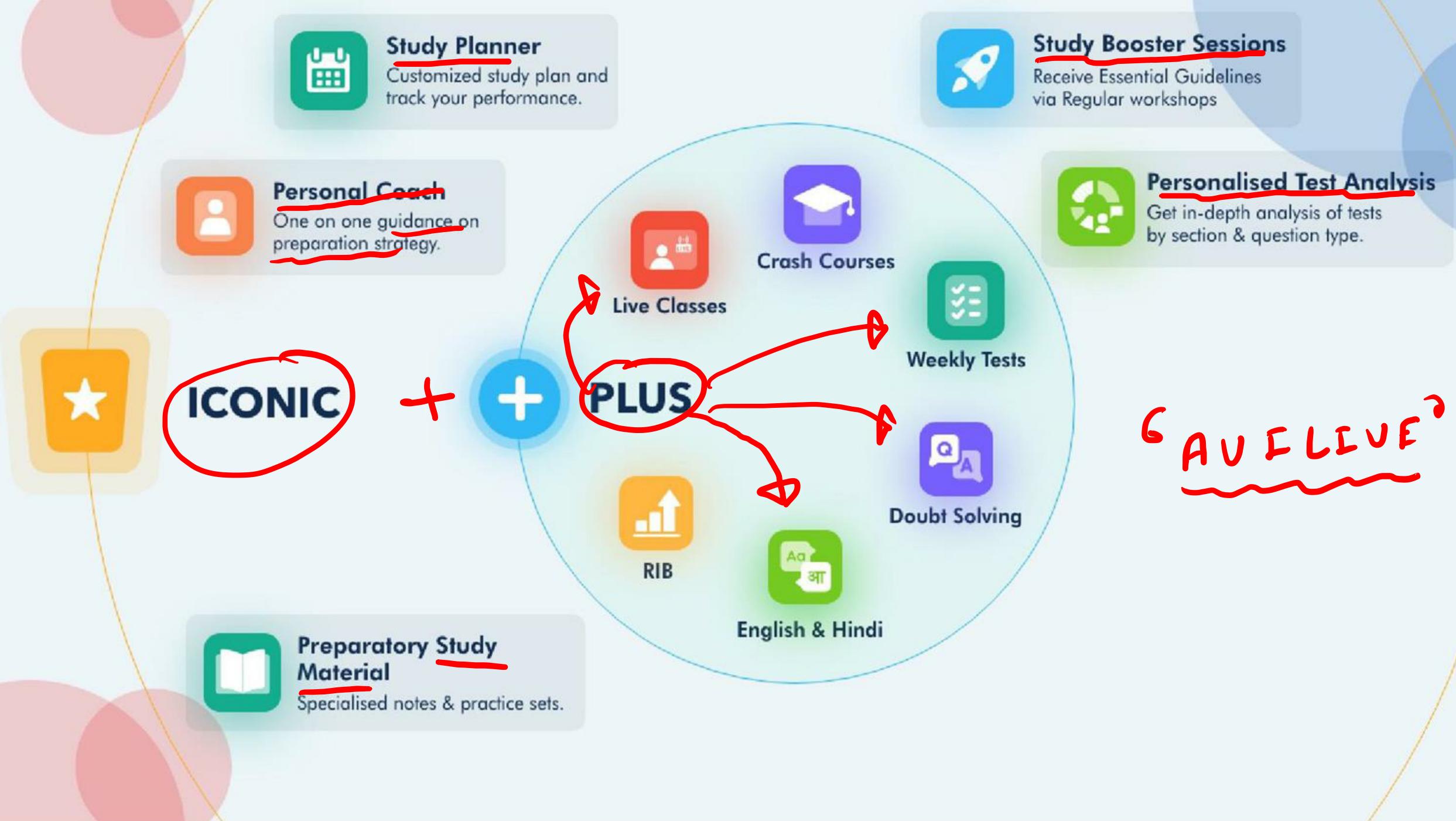
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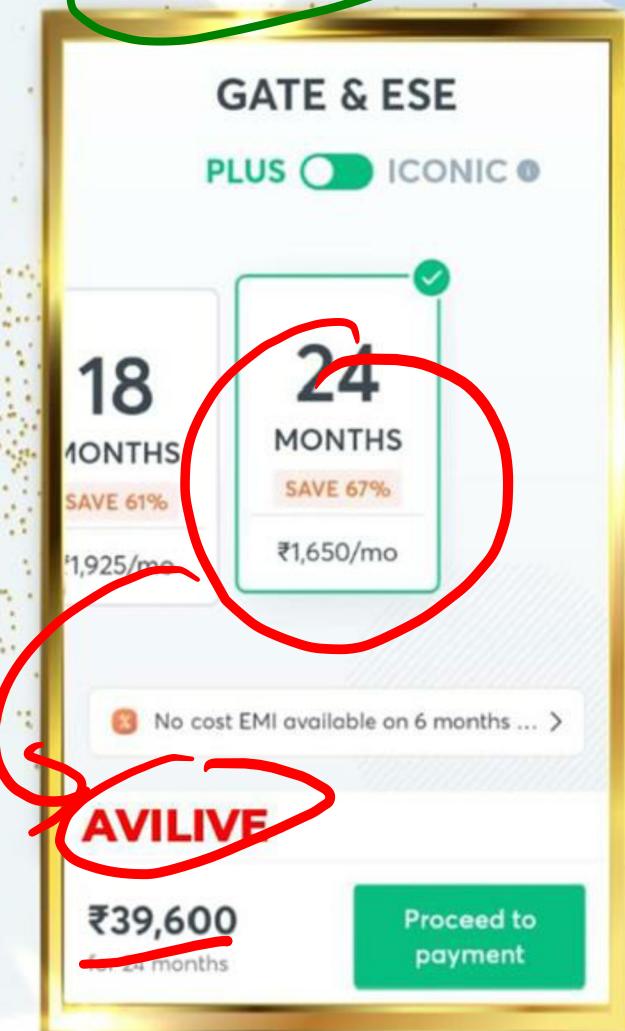
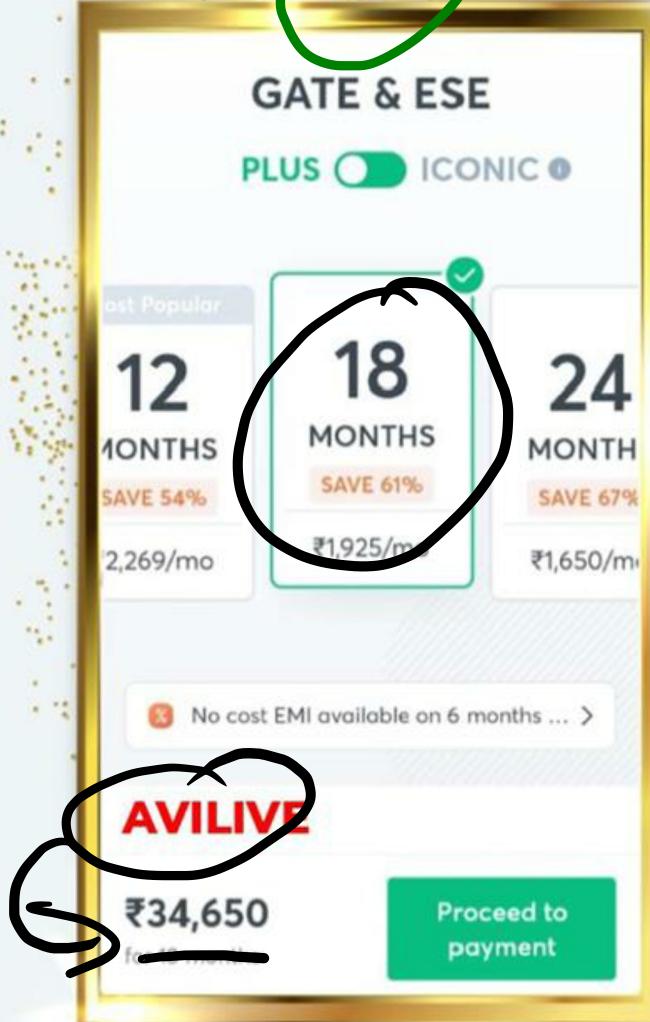
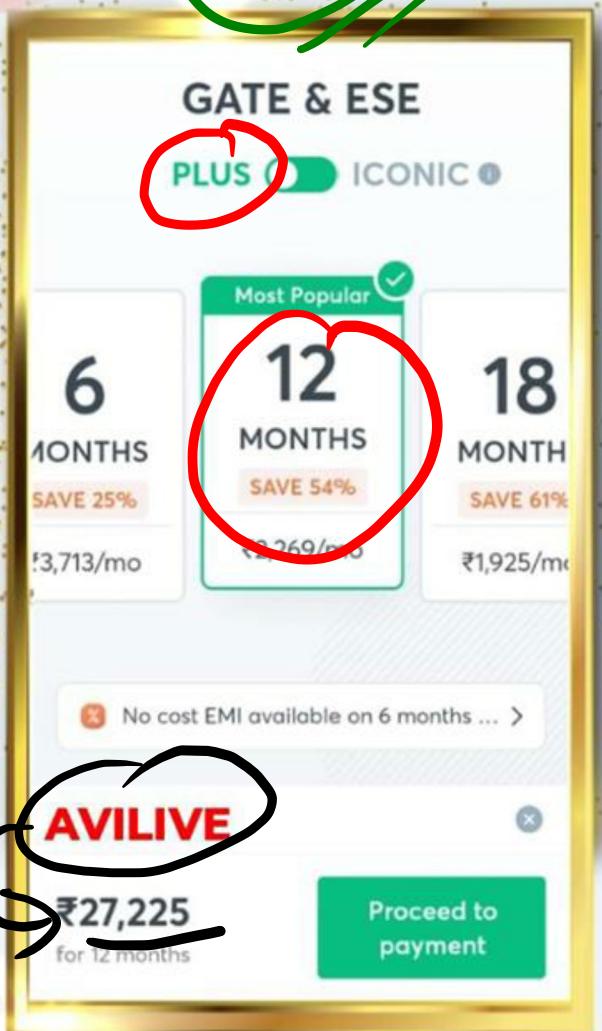
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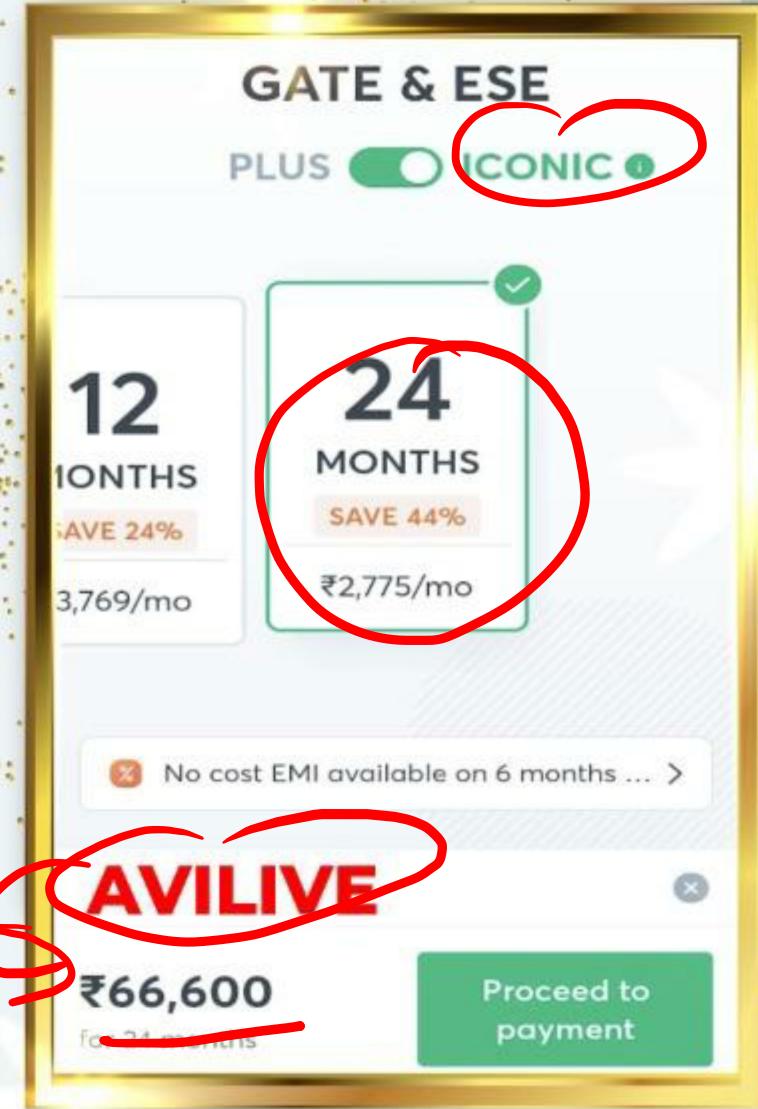
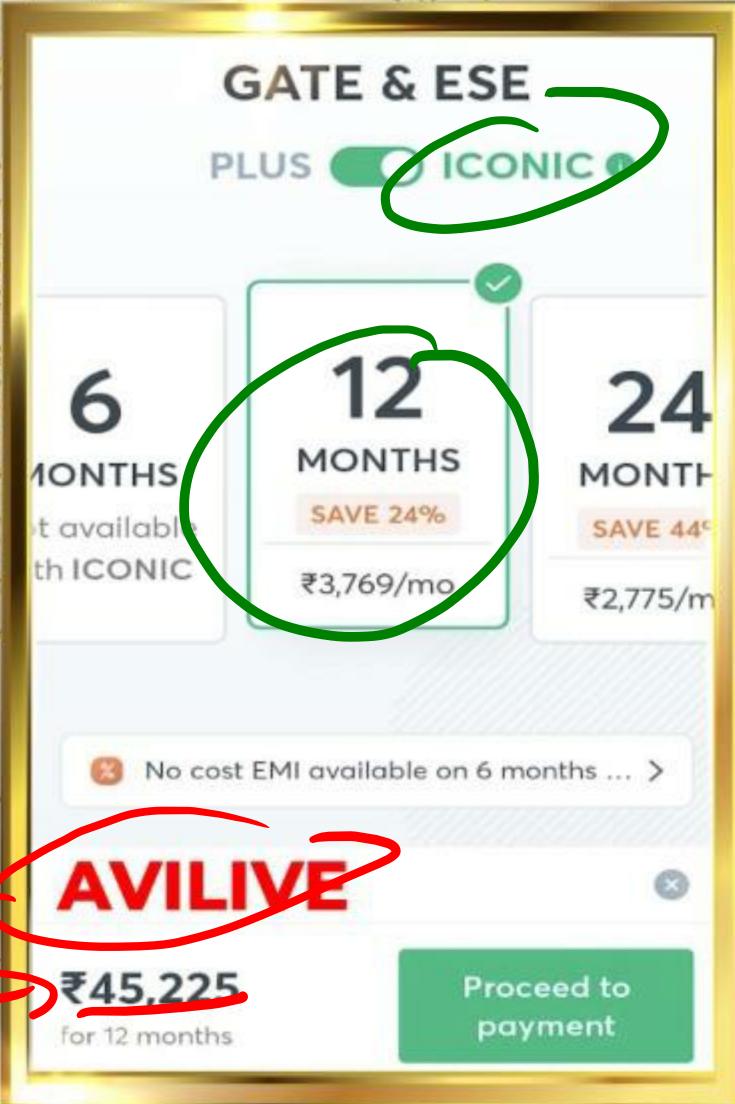
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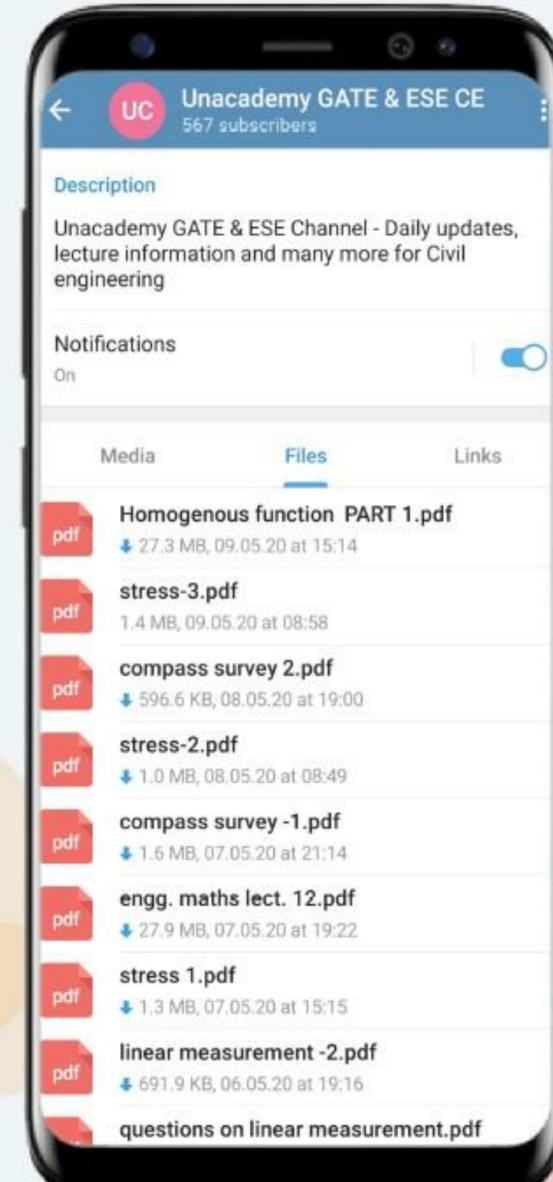








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