

धमाकेदार ट्रिक के साथ 🔥🔥

GATE 2021

GENERAL APTITUDE

PERCENTAGE - 1
BASIC CONCEPT

29



AVINASH SIR



unacademy

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GATE | EE (CE)



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Subjects Taken:

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Digital Electronics



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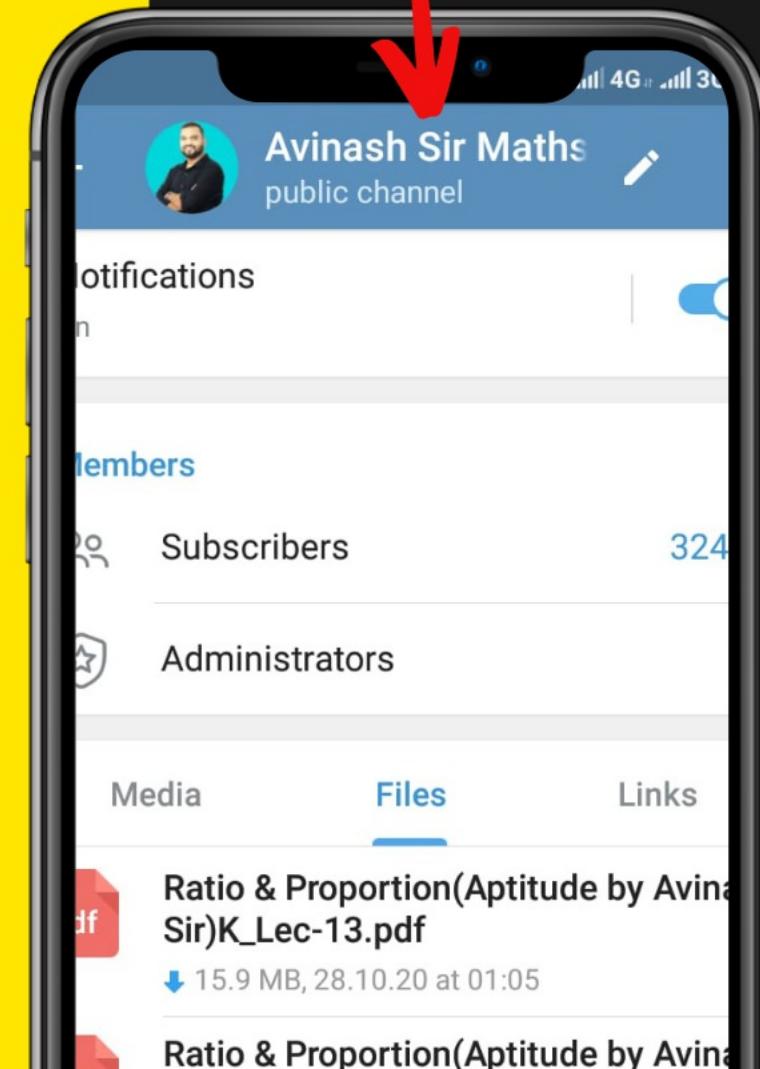


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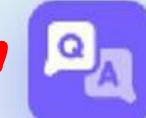
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Analytical Aptitude

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

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

The average age of three boys is 25 years and their ages are in the proportion 3:5:7. The age of the youngest boy is

A) 21 years

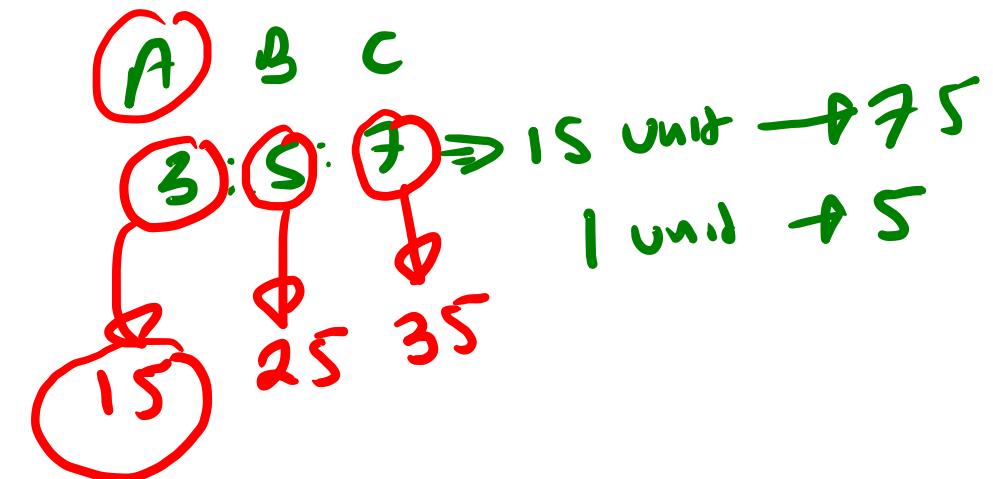
B) 18 years

C) 15 years

D) 9 years

[VIZAG STEEL PLANT, 2015]

$$\begin{aligned} A+B+C &= 25 \times 3 \\ &= 75 \end{aligned}$$



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✓Today's Class Agenda

- Basic Concept of Percentage *term*
- Practice questions based on Basic Concept

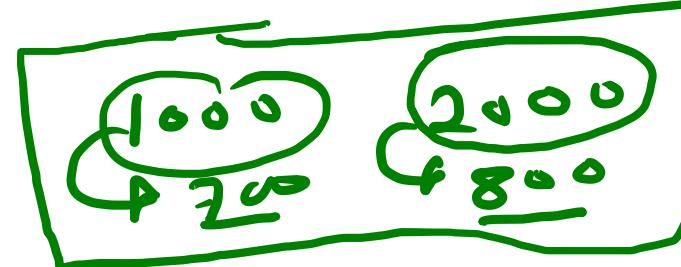
Percentage

B.Tech + %

Per cent \Rightarrow means for every 100
Every $\frac{1}{100}$

Number
100 $\xrightarrow{\text{equal}}$ 1 part = $\frac{1}{100}$

Exam Marks Total Marks
 ∇ Ram \rightarrow 50 — 100 \Rightarrow 50%
 ∇ Shyam \rightarrow 75 — 200 \Rightarrow 37.5%



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

Fraction to percentage:-

↳ multiply with 100

$$\frac{1}{2} \rightarrow \frac{1}{2} \times 100 = 50\%$$

$$\frac{2}{3} \rightarrow \frac{2}{3} \times 100 = \frac{200}{3}\%$$

$$\frac{3}{7} \rightarrow \frac{3}{7} \times 100 = \frac{300}{7}\%$$

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$$\frac{1}{2} = 50\%$$

$$\frac{1}{3} = 33\dot{3}\% = 33\frac{1}{3}\%$$

$$\frac{1}{4} = 25\%$$

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

$$\frac{1}{6} = 16.\dot{6}\% = 16\frac{2}{3}\%$$

$$\frac{1}{8} = 12.5\%$$

$$\frac{1}{9} = 11.\dot{1}\% = 11\frac{1}{9}\%$$

$$\frac{1}{10} = 10\%$$

$$\frac{1}{11} = 9.\dot{0}\dot{9}\% = 9\frac{1}{11}\%$$

$$\frac{1}{12} = 8\frac{1}{3}\% = 8 \cdot 33\%$$

$$\frac{1}{2} = \frac{1}{2} \times \frac{1}{6}$$

$$= \frac{50}{6} - \frac{25}{3}$$

$$= 8\frac{1}{3}\%$$

$$\frac{2}{3} \rightarrow 33\frac{1}{3}\% \times 2$$

$$= 66\frac{2}{3}\%$$

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Percentage to Fraction:-

↳ Divide by 100

$$50\% \rightarrow \frac{50}{100} = \frac{1}{2}$$

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

$$25\% = \frac{25}{100} = \frac{1}{4}$$

$$40\% = \frac{40}{100} = \frac{2}{5}$$

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$5\% \text{ of } \underline{300}$

$$= \left(\frac{300}{100} \right) \times 5 = 15$$

($\checkmark 1\% \text{ of } 300$)

$300\% \text{ of } 5$

$$= \left(\frac{5}{100} \right) \times 300 = 15$$

($\checkmark 1\% \text{ of } 5$)

$5\% \text{ of } 300 = 300\% \text{ of } 5$

$$\checkmark \boxed{a\% \text{ of } b = b\% \text{ of } a}$$

$59\% \text{ of } 50 = 50\% \text{ of } 59 = \frac{59}{2}$

Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Percentage(Lec-1)



1) $5\% \text{ of } a = b$, then $b\% \text{ of } 20$ is the same as _____.

A) ~~$20\% \text{ of } \frac{a}{2}$~~

$$\begin{aligned} & 20\% \text{ of } 50 \\ & = 10 \end{aligned}$$

$$a = 100$$

$$b = 5$$

B) ~~$50\% \text{ of } \frac{a}{20} \Rightarrow 5$~~

$$\begin{aligned} & 50\% \text{ of } \frac{a}{20} \\ & \Rightarrow 5 \end{aligned}$$

C) ~~$50\% \text{ of } \frac{a}{2} \Rightarrow 5$~~

$$\begin{aligned} & 50\% \text{ of } \frac{a}{2} \\ & \Rightarrow 5 \end{aligned}$$

D) ~~$20\% \text{ of } \frac{a}{20} \Rightarrow 5$~~

$$= 1$$

(VAR)
(\neq VAR)

$$\begin{aligned} & b\% \text{ of } 20 \\ & \hookrightarrow 5\% \text{ of } 20 \\ & = 1 \end{aligned}$$

$$\frac{20}{100} = 0.2$$

$$1\% \text{ of } 20$$

$$5\% \text{ of } 20 = 0.2 \times 5 = 1$$

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Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Percentage(Lec-1)



2) $(x\% \text{ of } y) + (y\% \text{ of } x)$ is equivalent to

A) $2\% \text{ of } xy$

B) $2\% \text{ of } \left(\frac{xy}{100}\right)$

10000

$x = 100, y = 100$

$x\% \text{ of } y + y\% \text{ of } x$

$100 + 100 = 200$

[GATE 2016]

C) $xy\% \text{ of } 100$

D) $100\% \text{ of } xy$



$\frac{10000}{100} = 100 \rightarrow 1\%$

$1\% \rightarrow 100$

$2\% \rightarrow 200$

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3) If $40\% \text{ of } a = b$ then $b\% \text{ of } 40$ is the same as

$$40\% \text{ of } a = b$$

$$\left(\frac{40}{100}\right) \times a = b$$

$$\frac{2a}{5} = b$$

$$b\% \text{ of } 40 = \frac{b}{100} \times 40$$

$$= (4 \times b) \times \frac{1}{100}$$

$$= 40 \times \frac{2a}{5}$$

$$= 16a \times \frac{1}{100}$$

$$= \left(\frac{a}{100}\right) \times 16$$

$$= \underline{\underline{16\% \text{ of } a}}$$

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4) If 40% of $(a + b)$ = 60% of $(a - b)$. Find the value of $(2a - 3b)/(a + b)$



Ⓐ 1

Ⓑ $\frac{6}{7}$

Ⓒ $\frac{2}{6}$

Ⓓ 2

40% of $(a + b)$ = 60% of $(a - b)$

$$\left(\frac{a+b}{100}\right) \times 40 = \left(\frac{a-b}{100}\right) \times 60$$

$$2a+2b = 3a-3b$$

$a = 5b$

$$\frac{2a-3b}{a+b}$$

$$= \frac{10b-3b}{5b+b}$$

$$= \frac{7b}{6b} = \frac{7}{6}$$

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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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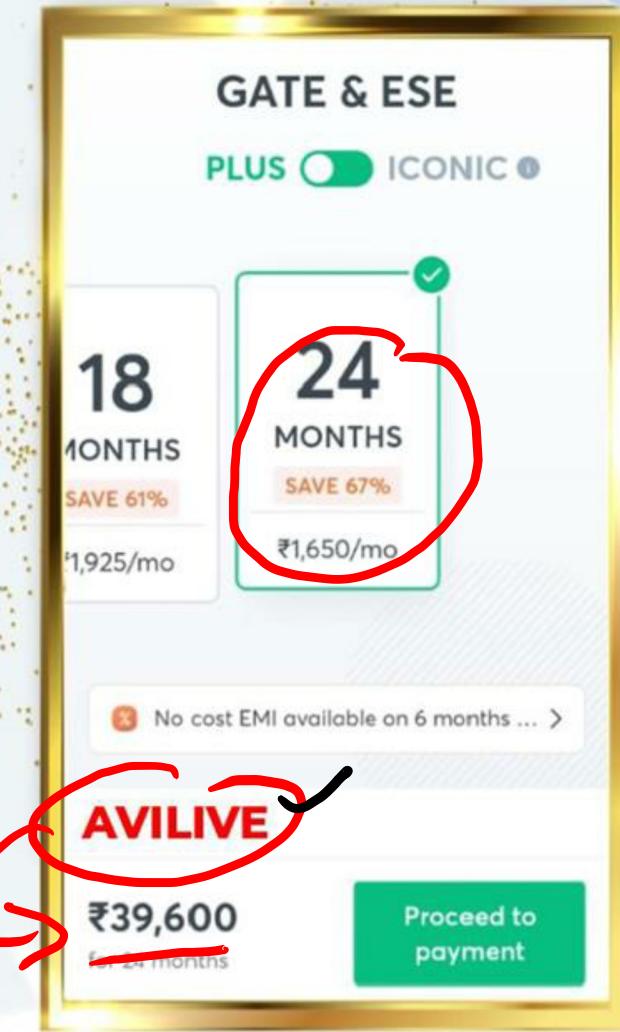
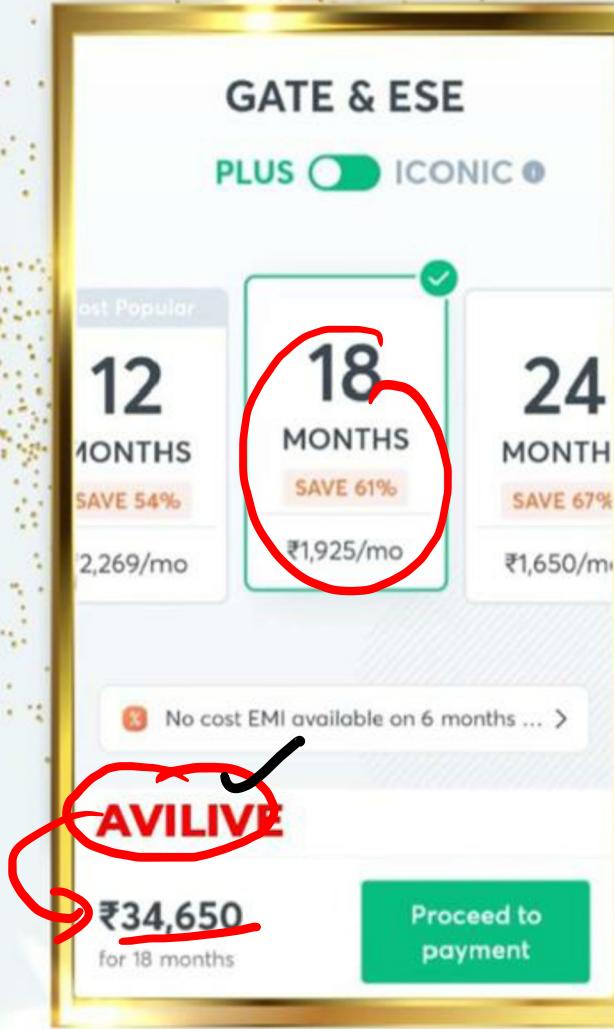
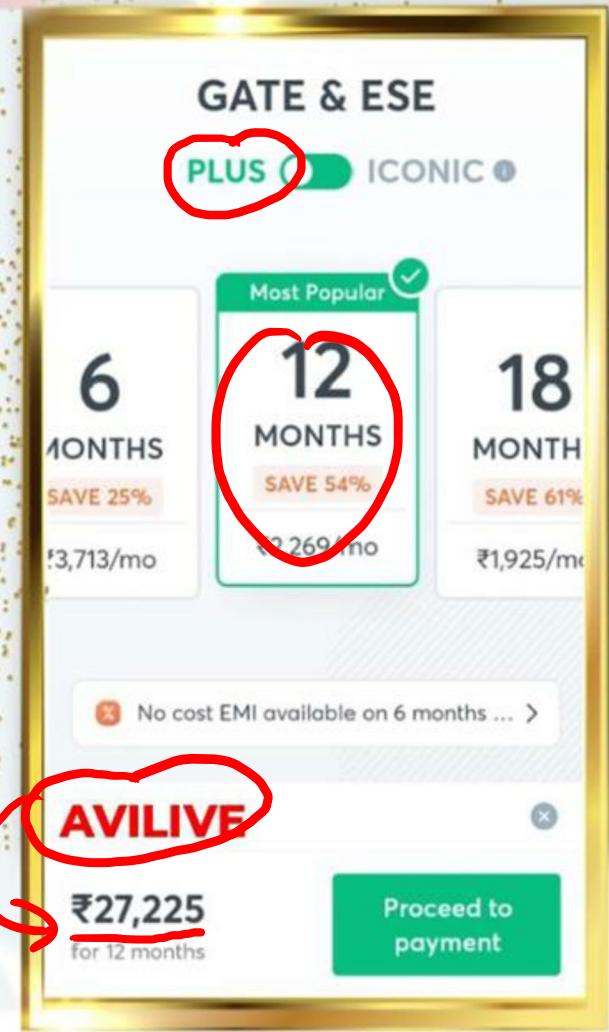
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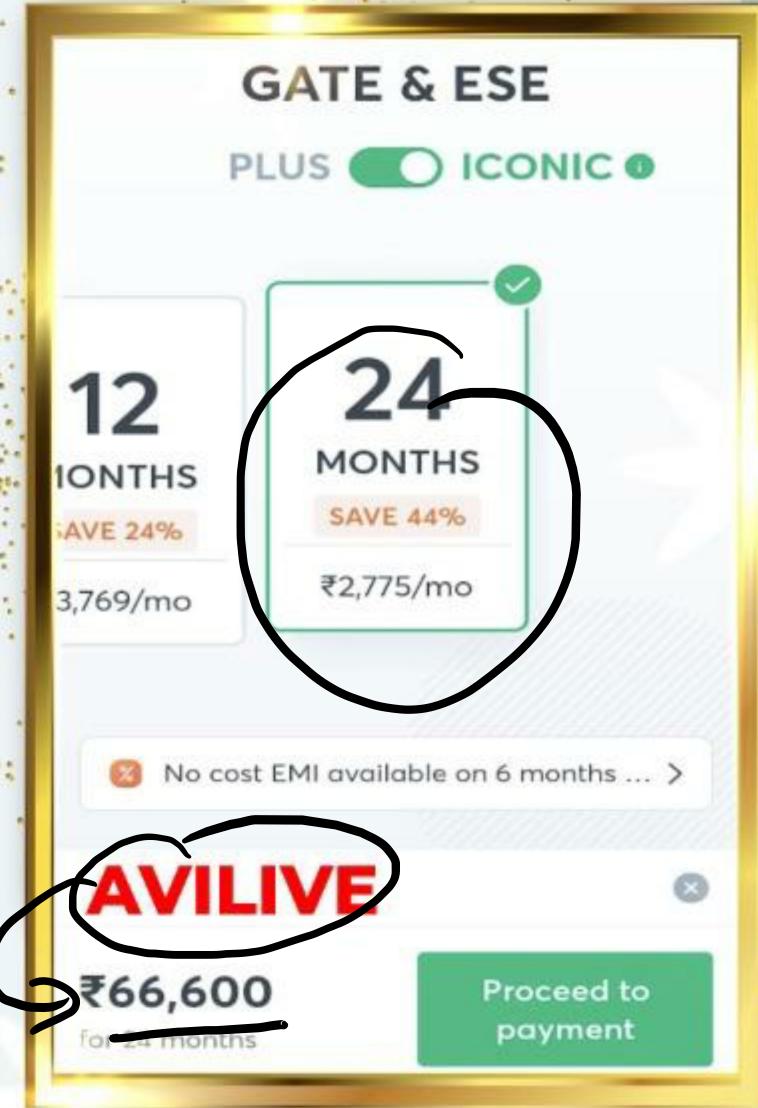
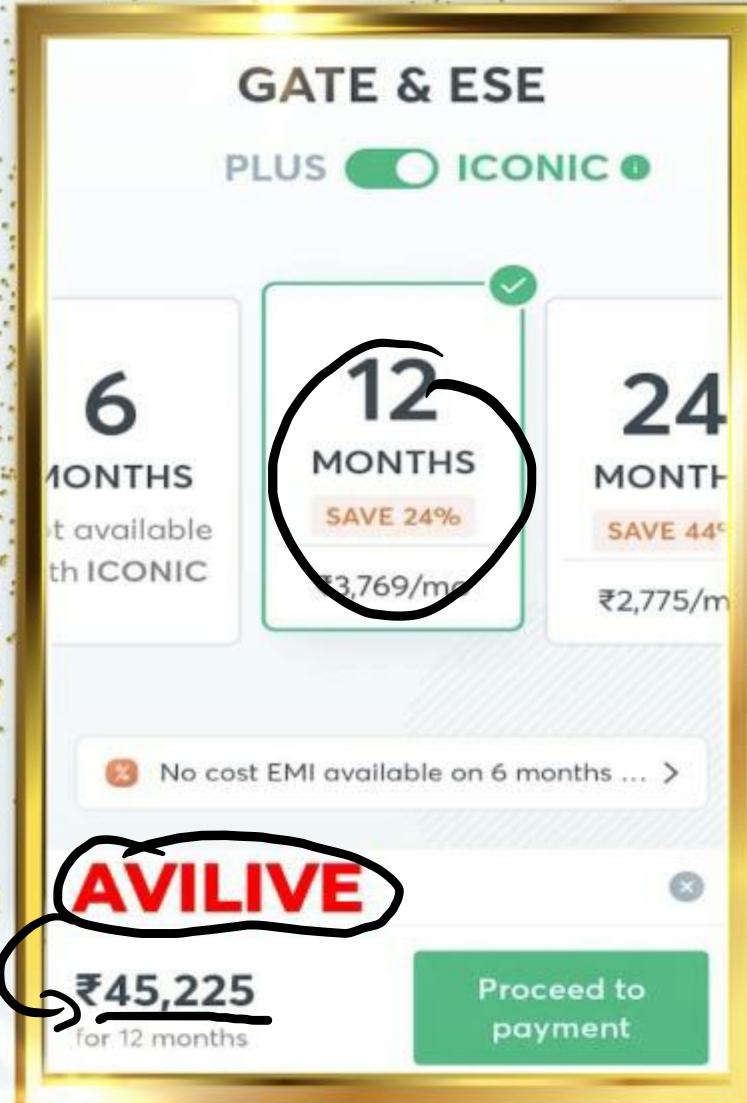
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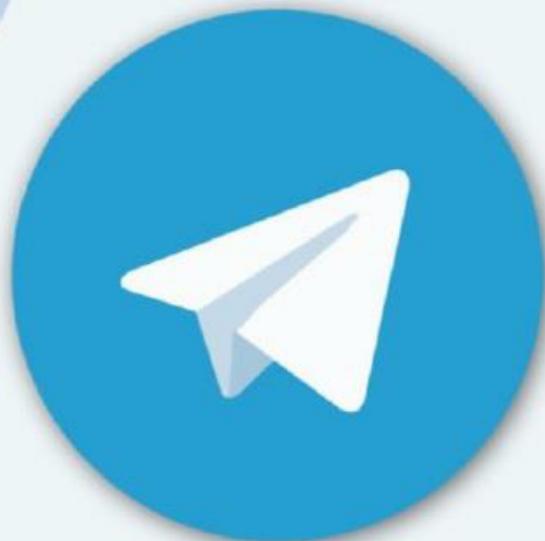
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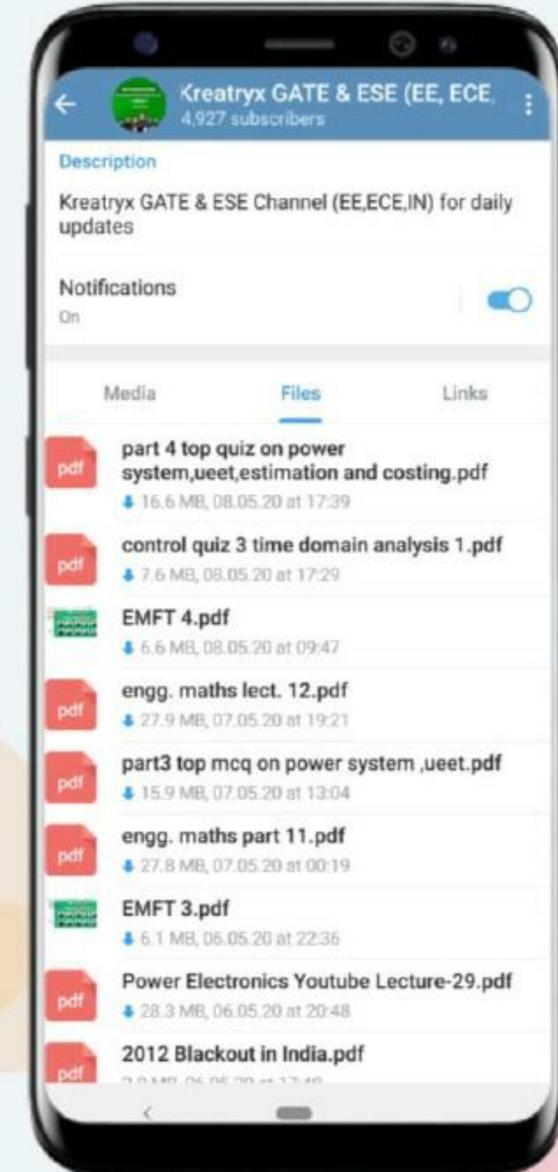








<https://t.me/kreatryxgateee>



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