

GATE 2021

GENERAL APTITUDE

धमाकेदार ट्रिक के साथ 🔥🔥

**RATIO AND
PROPORTION -4**

16



unacademy

AVINASH SIR

AVINASH SINGH SIR

GATE | EE (CE)



Secured Score 99.86% in
CAT (Quantitative Section)



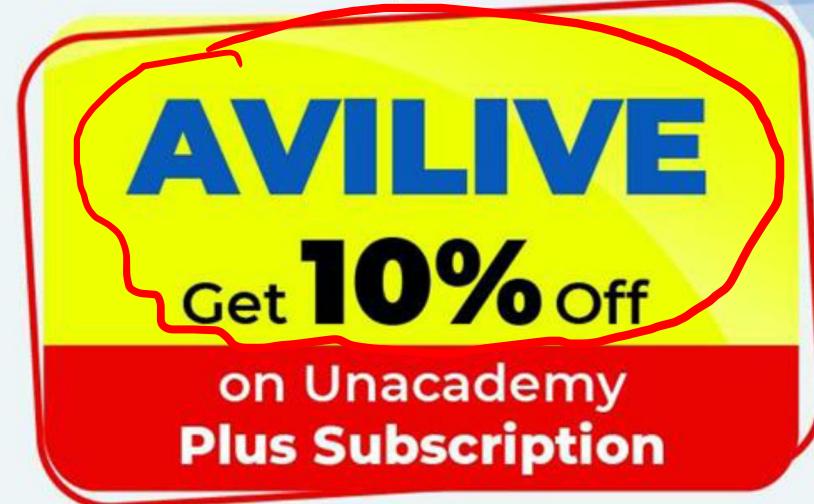
GATE/ESE:

7+ Years Teaching Experience
Mentored 25k+ Students for
GATE, ESE & PSUs



Subjects Taken:

General Aptitude
Engineering Mathematics
Digital Electronics





Study Planner

Customized study plan and track your performance.



Study Booster Sessions

Receive Essential Guidelines via Regular workshops



Personal Coach

One on one guidance on preparation strategy.



Personalised Test Analysis

Get in-depth analysis of tests by section & question type.



ICONIC



PLUS



Live Classes



Crash Courses



Weekly Tests



Doubt Solving



RIB



English & Hindi



Preparatory Study Material

Specialised notes & practice sets.

Complete Package To CRACK GATE/ESE

The image displays a grid of 15 educational modules for GATE/ESE preparation, arranged in three rows. Each module includes the subject title, the teacher's name, and a small profile picture of the instructor.

- FLUID MECHANICS** by Mrigank Sir
- STRENGTH OF MATERIALS** by Abhishek Sir
- DESIGN OF STEEL STRUCTURE** by Babul Sir
- GEOTECHNICAL ENGINEERING** by Abhishek Sir
- REINFORCED CEMENT CONCRETE (RCC)** by Aishwary Sir
- RCC** by Kshitij Sir
- OPEN FLOW CHANNEL** by Mrigank Saurav Sir
- IRRIGATION ENGINEERING** by Chetan Sir
- STRUCTURAL ANALYSIS** by Aishwary Sir
- SURVEYING** by Kshitij Sachan Sir
- GEOTECHNICAL ENGINEERING** by Aishwary Sir
- ENVIRONMENTAL ENGG** by Mrigank Saurav Sir
- ENGINEERING HYDROLOGY** by Chetan Sir
- HIGHWAY ENGINEERING** by Kshitij Sachan Sir

✓Analytical Aptitude

- Venn Diagram
- Syllogism *Reason*
- Series
- Coding & Decoding
- Odd Man out
- Distance & Direction
- Blood Relation
- Seating Arrangements
- Clock & Calendar
- Puzzle

✓Quantitative Aptitude

- Number System
- Sequence & Series
- Ratio & Proportion
- Time, Speed & Distance
- Percentage
- Profit, Loss & Discount
- Average
- Allegation & Mixture
- Time & Work
- Pipes & Cisterns
- 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

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON



Home Work Question

Two numbers are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:

~~33~~

$$3:5 \Rightarrow 2$$

$$12:23 \Rightarrow 11$$

$$\begin{array}{r} 33:55 \Rightarrow 22 \\ 5-9 \quad 5-9 \\ 24:46 \Rightarrow 22 \end{array}$$

$$\begin{array}{l} 9 \text{ unit } \rightarrow 9 \\ 1 \text{ unit } \rightarrow 1 \end{array}$$

$$33 \text{ unit } = \boxed{33}$$

USE CODE

AVILIVE

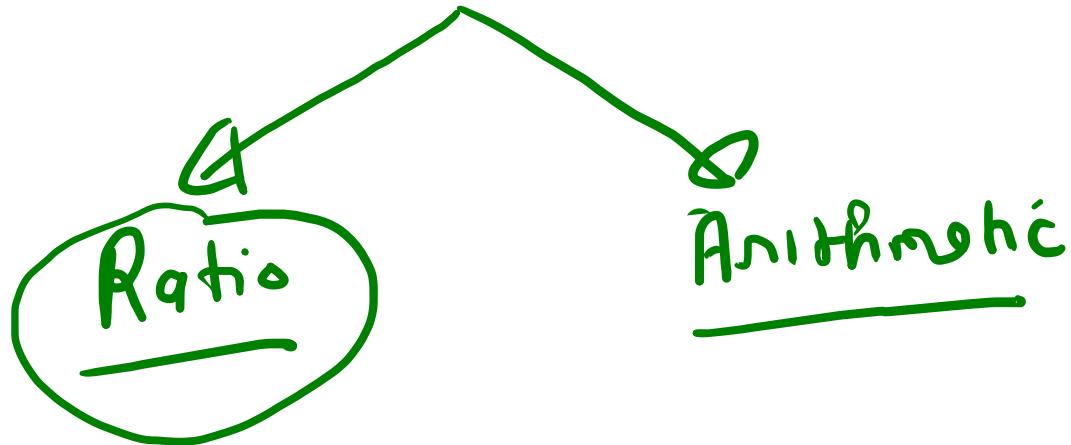
TO GET

MAX DISCOUNT ON



Today's Class Agenda

➤ Coin Based Questions



USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription

Coin Based Questions

₹1 + ₹100

30P + $\frac{30P}{100}$ = $\frac{3}{10}$

Coin → ₹21

₹2½
50P

₹1¼
25P

₹1½
10P

₹2½
20P



USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription



1) A bag contains three types of coins i.e. one rupee coins, 50 paise coins and 25 paise coins in the ratio 5:6:7. If the total amount is ₹ 390. Find the no. of coins of each kind?

A) 240, 270, 290

~~B) 200, 240, 280~~

C) 200, 220, 280

D) 180, 250, 290

~~m-1~~

~~R1 : S^{1/2} P^{1/4}~~

~~25P~~

~~S : 6 : 7~~

No of
Coin → ~~$\sum x$~~
Amount → ~~200~~

~~$6x$~~
 ~~240~~

~~$7x$~~
 ~~280~~

~~$3x$~~
 ~~120~~

~~$\frac{7x}{4}$~~
 ~~70~~

$$Sx + 3x + \frac{7x}{4} = 390$$

$$\frac{32x + 7x}{4} = 390$$

$$39x = 390 \times 4$$

$$x = 40$$

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON


Subscription

M-II

₹1

₹¹₂
50P

₹¹₄
25P

$$(5 : 6 : 7) \times 4$$

No of
coin → 20

24
→ 240
28
→ 280

Amount → ₹20
→ ₹200
₹12
→ ₹120
₹7
→ ₹70

Total Amount

$$(20 + 12 + 7) \text{ unit}$$

$$= 39 \text{ unit}$$

39 unit → 390
1 unit → 10

$$\begin{aligned} & 200 + 120 + 70 \\ & = 320 + 70 \end{aligned}$$

390



- 2) A bag contains ₹ 1, 50 paise and 25 paise coins in the ratio of 5: 7: 9. If the total money in the bag is ₹ 430, then find the number of 50 paise coins.
- [UPPCL-2016]**
- A) 200 B) 330 C) 360 D) 280

$\text{₹1} \quad (\text{₹}\frac{1}{2}) \quad (\text{₹}\frac{1}{4})$

$(5 : 7 : 9) \times 4$

Number of coin $20 \quad 28 \quad 36$
Amount $\text{₹}20 \quad \text{₹}28 \quad \text{₹}36$
 $\text{₹}20 \quad \text{₹}14 \quad \text{₹}9$

Coin A/m $5 \text{ paisa} + 28 \text{ unit}$
 $- 280$

$20 + 14 + 9 \rightarrow 430$
 $43 \rightarrow 430$
 $11 \rightarrow 11$

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON


Subscription



- 3) A man has few coins of 1 rupee coins, 50 paise coins and 25 paise coins in the ratio $1/2 : 1/3 : 1/4$. If the number of 50 paise coins is 96. Find the total amount of coins ?
- A) ₹312 B) ₹ 220 C) ₹ 210 D) ₹260

$$\begin{array}{c} 21 \quad (\frac{1}{2}) \quad (\frac{1}{3}) \\ \text{1R} \quad \text{50P} \quad \text{25P} \\ (\frac{1}{2} : \frac{1}{3} : \frac{1}{4}) \times 12 \\ [6 : 4 : 3] \times 4 \end{array}$$

$$\begin{array}{c} 21 \quad \text{50P} \quad \text{25P} \\ 24 \quad 16 \quad 12 \\ (\frac{1}{2} \times 6) \quad (\frac{1}{3} \times 6) \quad (\frac{1}{4} \times 6) \\ \text{Amount} \rightarrow 24 \quad 8 \quad 3 \\ (24 \times 6) \quad (8 \times 6) \quad (3 \times 6) \end{array}$$

$$\begin{array}{l} 16 \text{ unit } \rightarrow 96 \\ 1 \text{ unit } \rightarrow 6 \\ \text{Total Amount} = (24 + 8 + 3) \times 6 \\ = 35 \times 6 = 210 \end{array}$$

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription



- 4) A bag contains three types of coins i.e. one rupee coins, 50 paise coins and 25 paise coins totalling 175 coins. If the total value of the coins of each kind be the same, the total amount in the bag is
- [RRB-2014(JE), BILASPUR]**
- A) ₹75 B) ₹126 C) ₹175 D) ₹300

$$\begin{array}{l}
 \text{No of} \\
 \text{Coin} \rightarrow 1 : 2 : 4 \\
 \text{Amount} \rightarrow 1 : 1 : 1
 \end{array}
 \quad
 \begin{array}{c}
 \text{₹1} \quad \text{₹} \frac{1}{2} \quad \text{₹} \frac{1}{4} \\
 \text{1P} \quad \text{50P} \quad \text{25P}
 \end{array}$$

$$\begin{aligned}
 (1+2+4) \text{ unit} &\rightarrow 175 \\
 7 \text{ unit} &\rightarrow 175 \\
 1 \text{ unit} &\rightarrow 25 \\
 \text{Total Amount} &= (1+1+1) \text{ Unit} \\
 3 \text{ unit} &\rightarrow 75
 \end{aligned}$$

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription



5) Raju has 14 currency notes in his pocket consisting of only ₹20 notes and ₹10 notes. The total money value of the notes is ₹230. The number of ₹10 notes that Raju has is

[GATE 2012, 2 MARKS]

A) 5

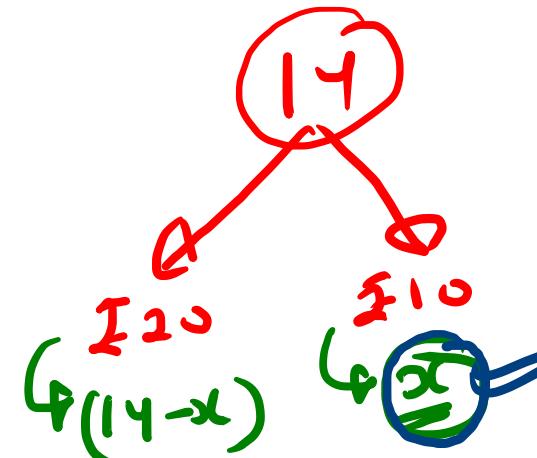
B) 6

C) 9

D) 10

$$6 \rightarrow ₹10 \Rightarrow 60$$

$$8 \rightarrow ₹20 \Rightarrow \frac{160}{220}$$



$$\text{Amount} = 20(14-x) + 10x = 230$$

$$280 - 20x + 10x = 230$$

$$20x = 50$$

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

plus
Subscription



- 6) A total of 324 notes comprising of ₹20 and ₹50 denomination make a sum of ₹12,450. The number of ₹20 notes is
- A) 200 B) 125 C) 144 D) 11

[ESE 2017, 2 MARKS]

$$\begin{array}{c} 324 \\ \swarrow \quad \searrow \\ \text{₹50} \quad \text{₹20} \\ \text{₹}(324-x) \quad \text{₹}x \\ 12450 = 50(324-x) + 20x \\ 12450 = 16200 - 50x + 20x \\ x = 125 \end{array}$$

USE CODE

AVILIVE

TO GET

MAX DISCOUNT ON





7) Anmol had 10 paise, 25 paise and 50 paise coins in the ratio of 10 : 8 : 9 respectively. After giving Rs. 20 his mother he has Rs. 40. How many 50 paise coins did he have?

[RRB-2019(JE)]

A) 72

B) 60

C) 54

D) NOTA

Q10 - 1

HW. Q-2

Home Work Question

A bag contains 50 paisa, 25 paisa and 10 paisa coins in the ratio of 7 : 8 : 3 amounting to ₹87. Find the number of 10 paisa coins?

- A) 30
- B) 45
- C) 60
- D) 50

USE CODE

AVILIVE

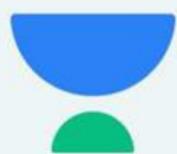
TO GET

MAX DISCOUNT ON



15 Day
800+
1 Lakh
72

Follow Me on



unacademy

3:00 AM
5:00 AM

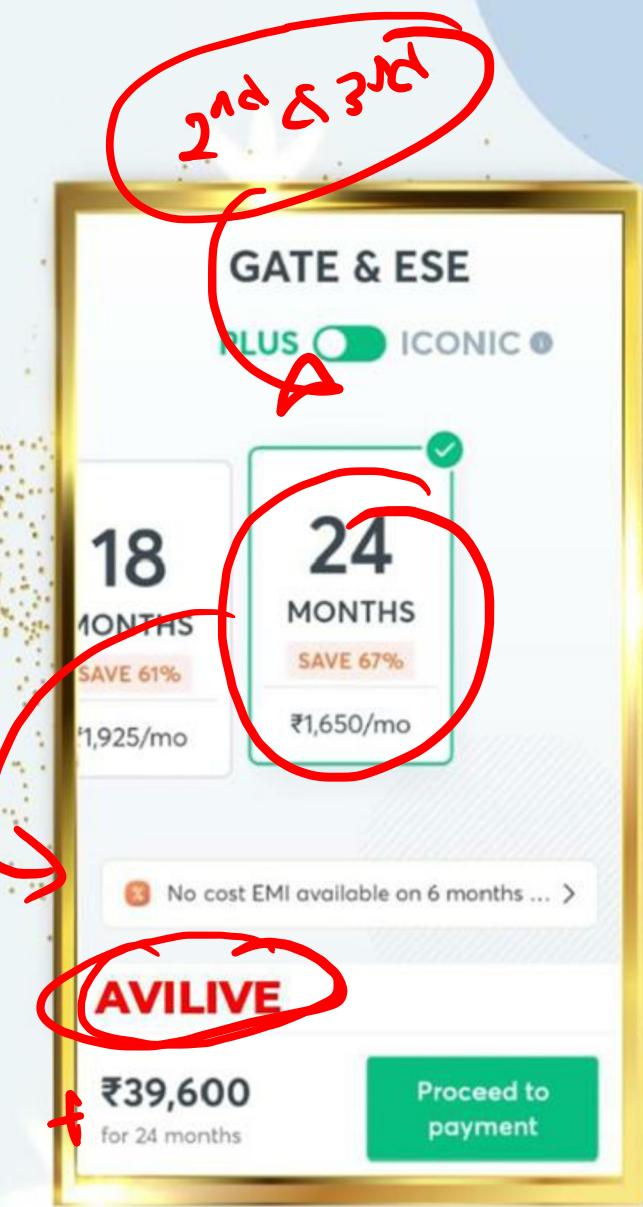
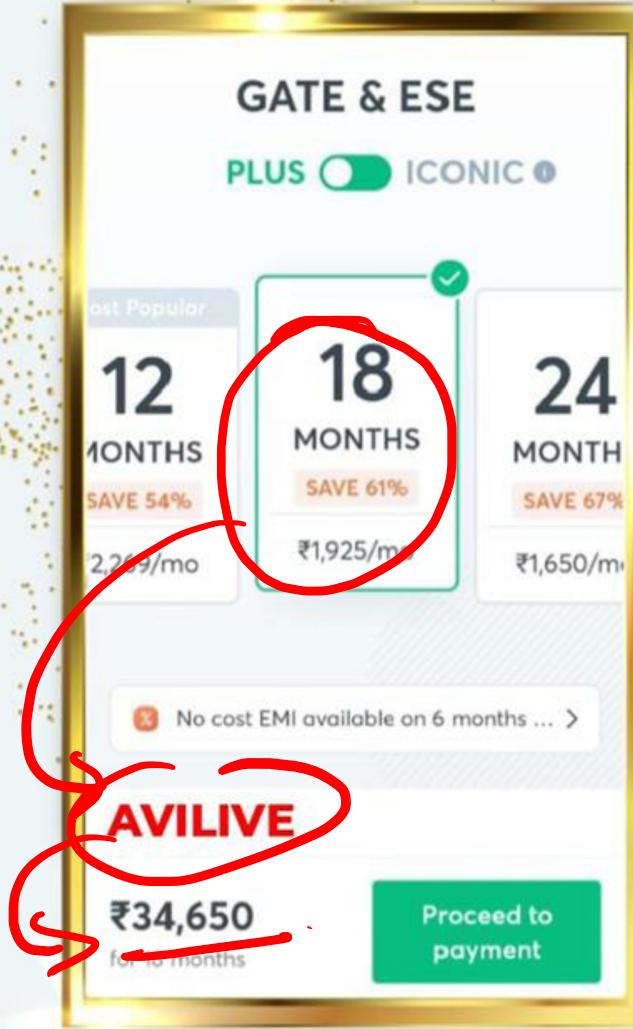
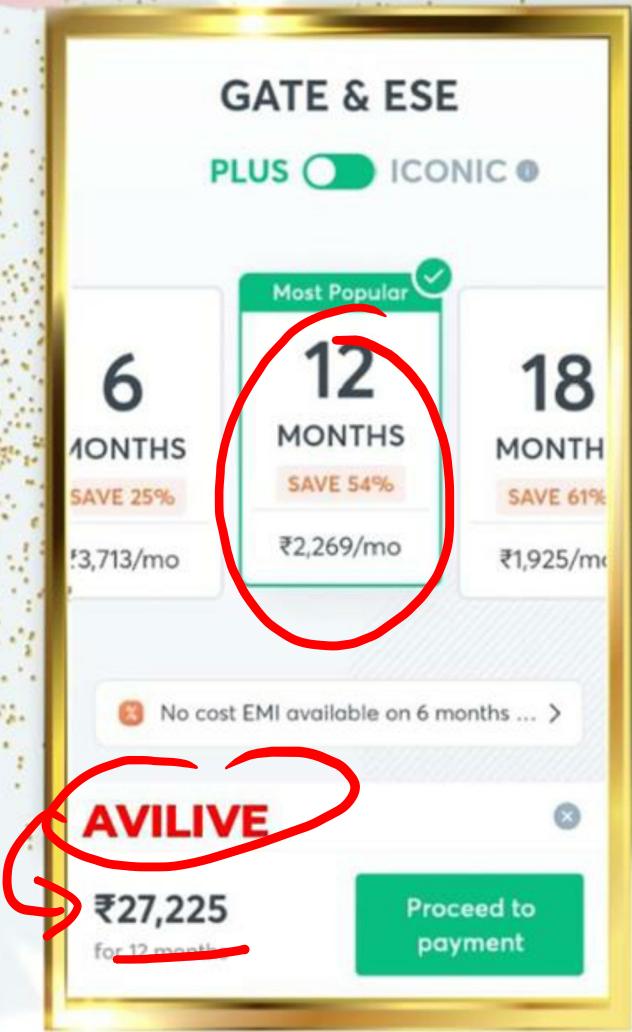
<https://unacademy.com/@unacademy-user-LKWBX7PD3KPG>

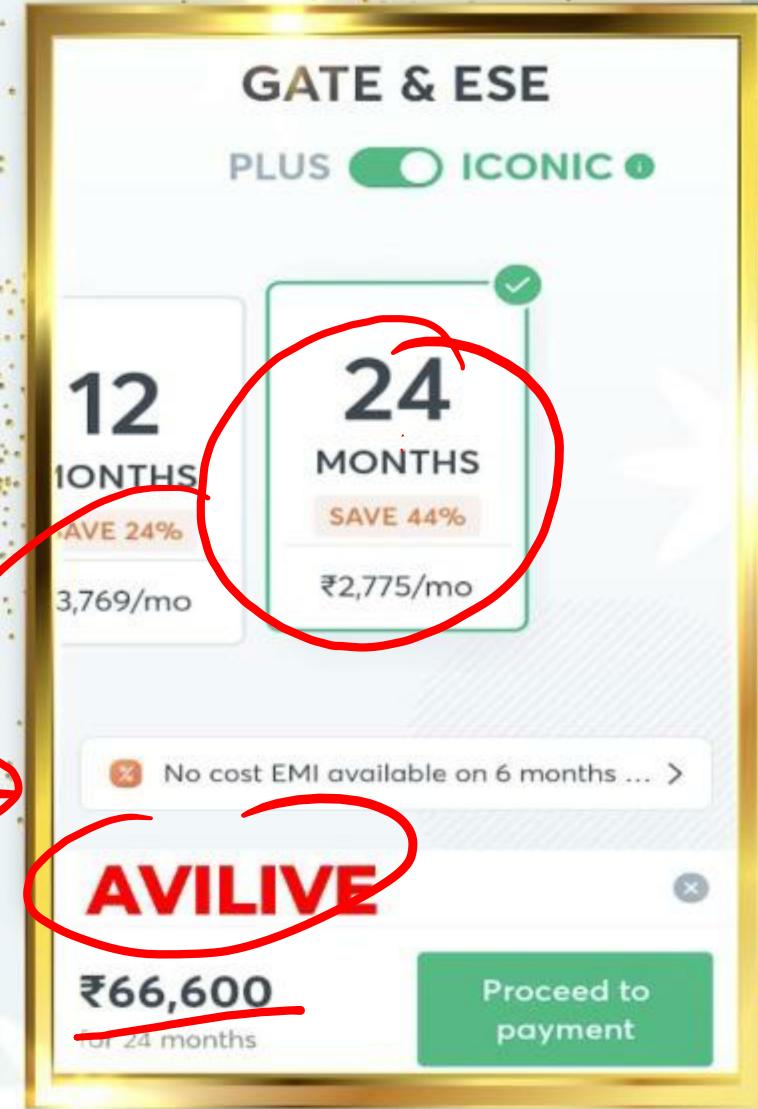
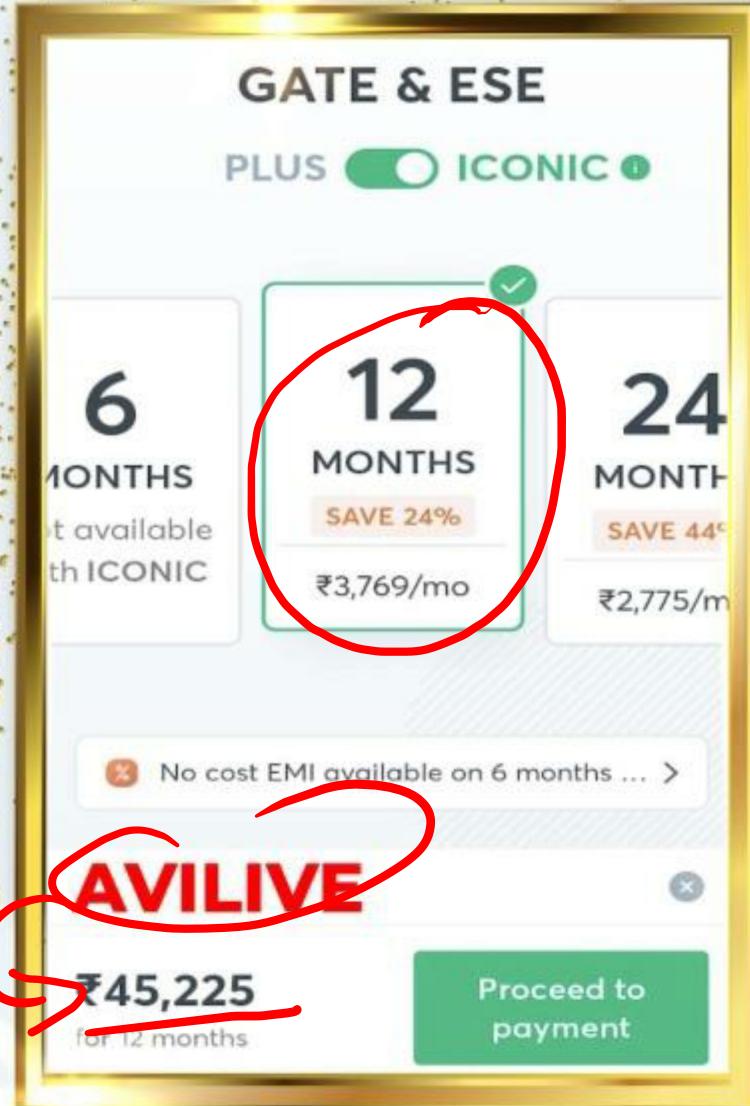
USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

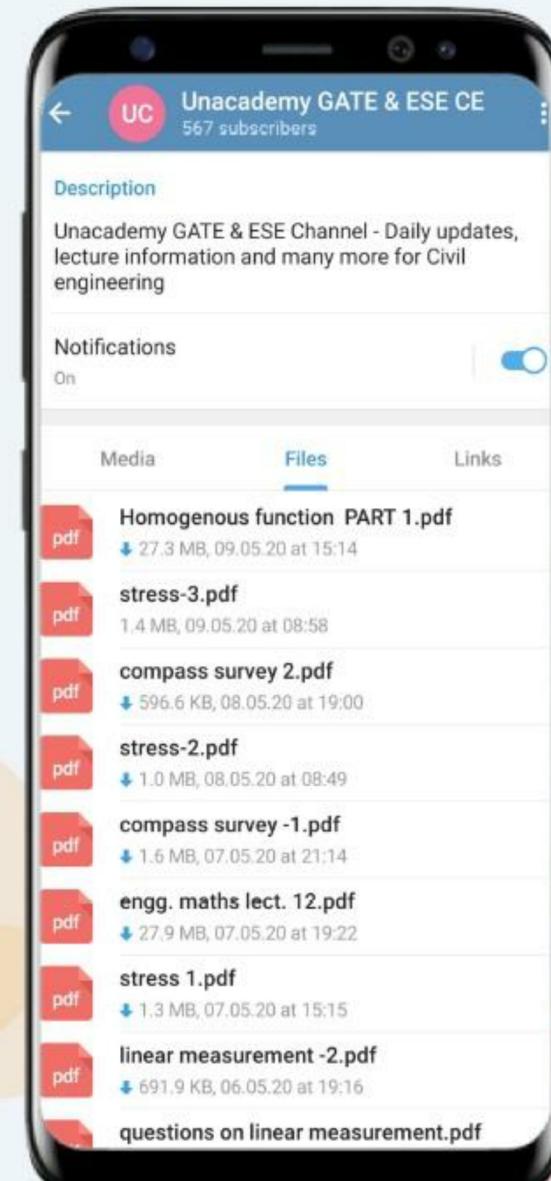
 **plus**
Subscription







<https://t.me/unacademygatece>



USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

plus
Subscription

India's No. 1 Study Channels

Kreatryx GATE
EE,ECE,IN



Unacademy GATE
ME,PI,XE



Unacademy
GATE CE



Unacademy
GATE Telugu



Unacademy
SSC JE



Unacademy
Computer Science



Unacademy GATE
Questions



Electrical
Junction



Engineering
Pathshala



GS Terminal -
RRB, SSC



USE CODE

AVILIVE

TO GET

MAX DISCOUNT ON

 **plus**
Subscription



11:20 PM

Thank You



SUBSCRIBE



USE CODE

AVILIVE

TO GET

MAX DISCOUNT ON

plus
Subscription