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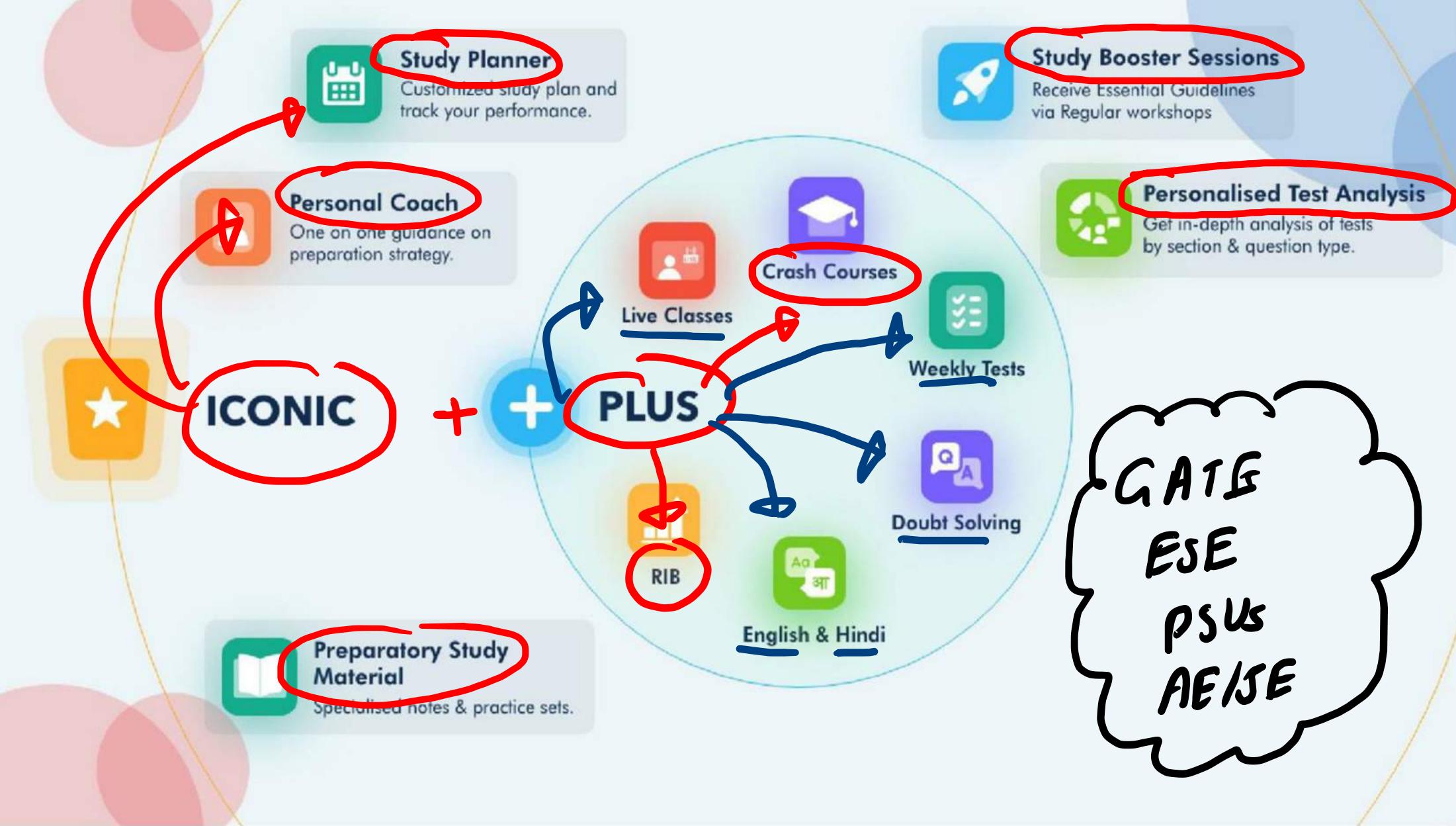


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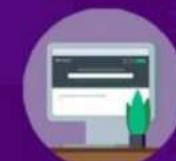
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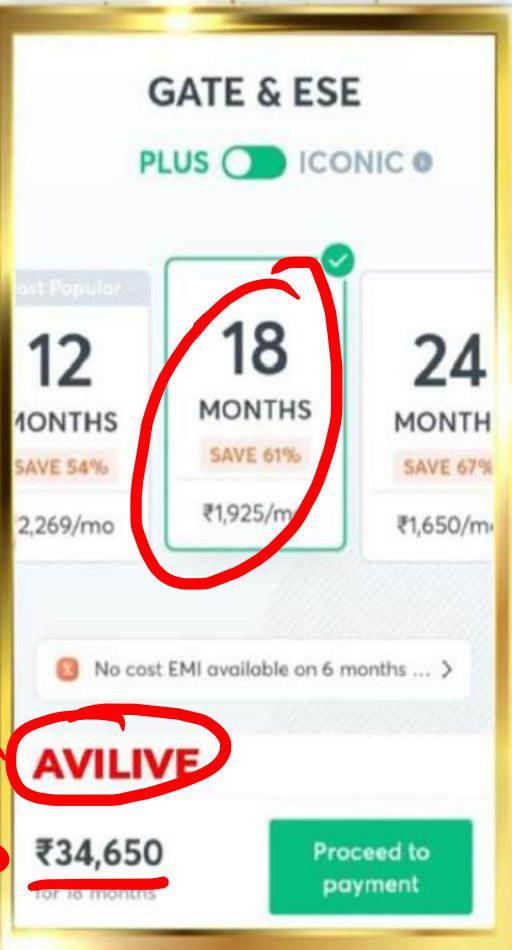
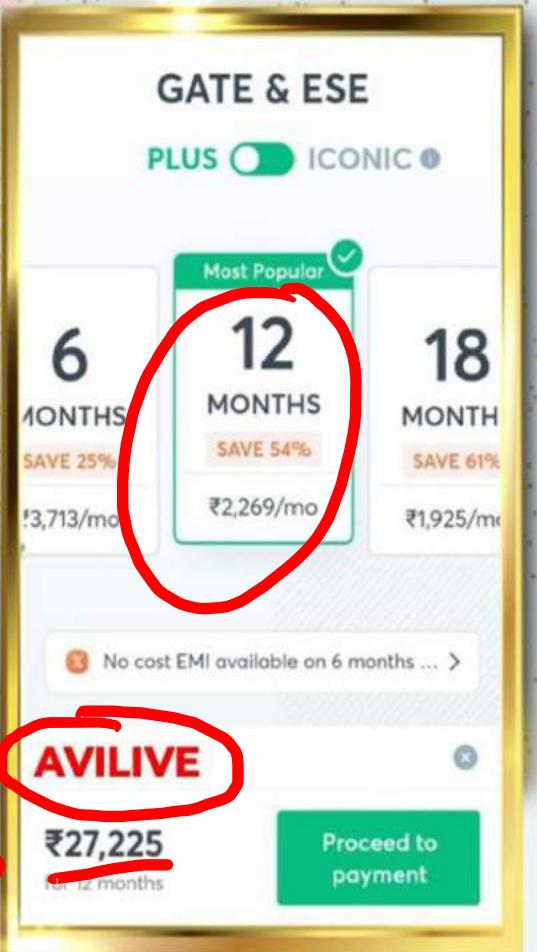
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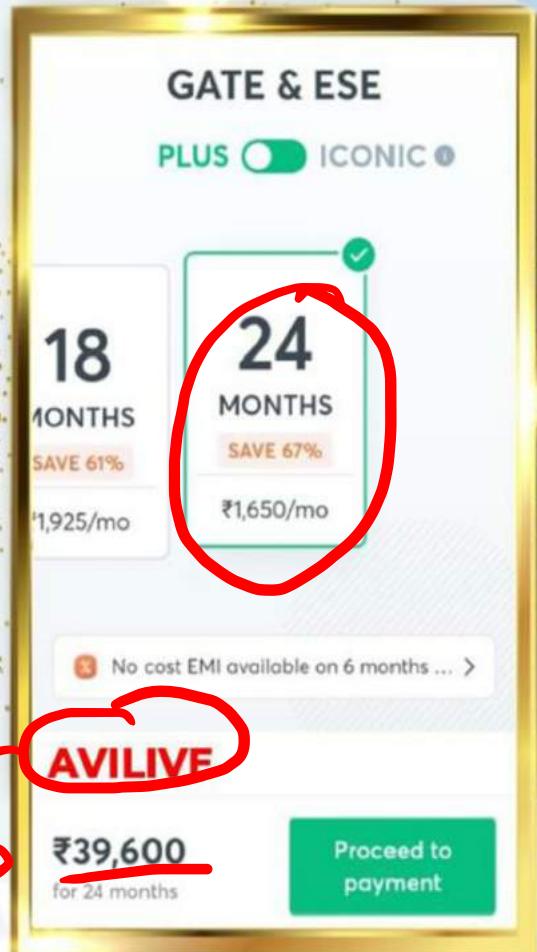


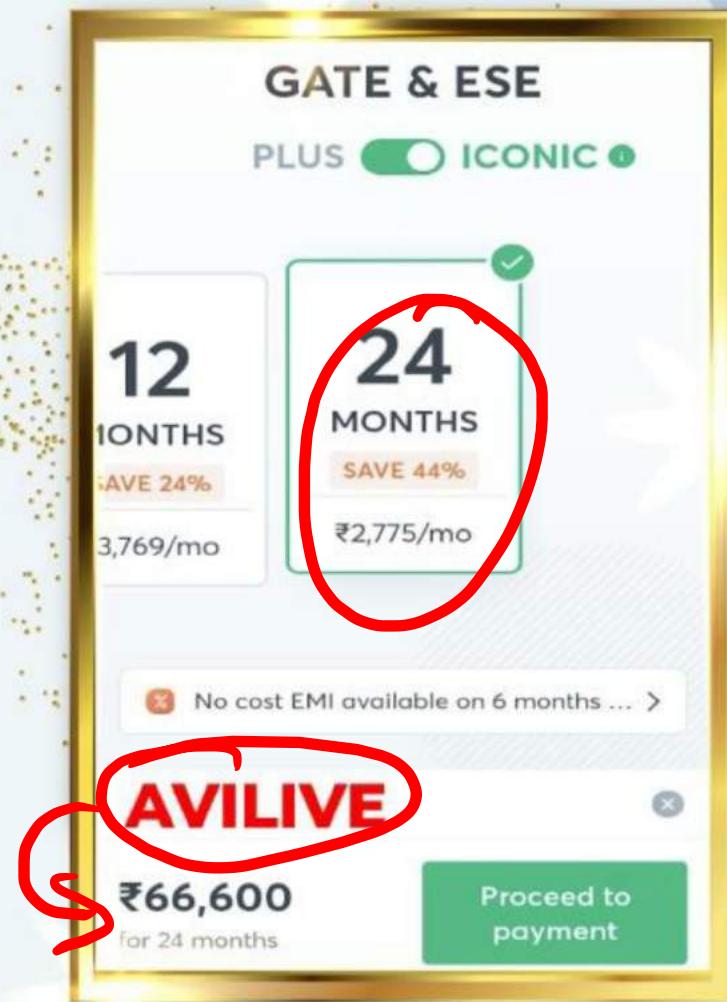
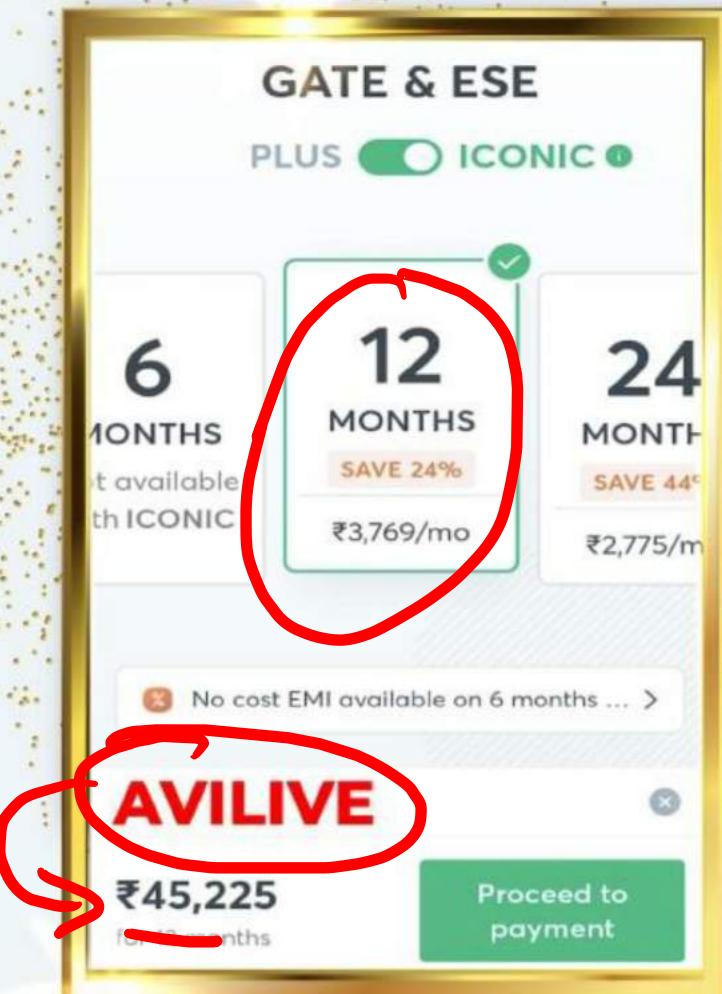
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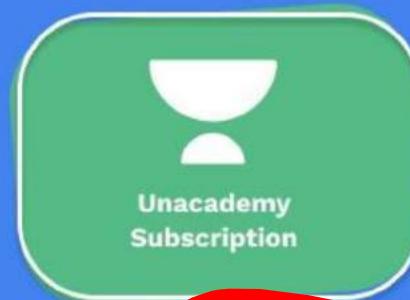


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GATE-2022/23

General Aptitude

Quantitative
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Analytical
Aptitude

Verbal
Aptitude

Spatial
Aptitude



Numerical Ability(Old)

Numerical computation,
numerical estimation,
numerical reasoning and
data interpretation.

Quantitative Aptitude(New)

Data interpretation: data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables

Numerical computation and estimation: ratios, percentages, powers, exponents and logarithms, permutations and combinations, and series

Mensuration and geometry,
Elementary statistics and probability

Topic wise Numerical Aptitude

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

Time & Work

➤ Basic concept

➤ Left the work-before/After(One left another join)

➤ Concept of ratio with efficiency

➤ Alternate days concepts

➤ Men, Women, children based concept

➤ MDH Concept

➤ Previous Year Asked Questions



Today Class Agenda

- ✓ Left the work-before/After(One left another join)
- ✓ Concept of ratio with efficiency

Time & Work

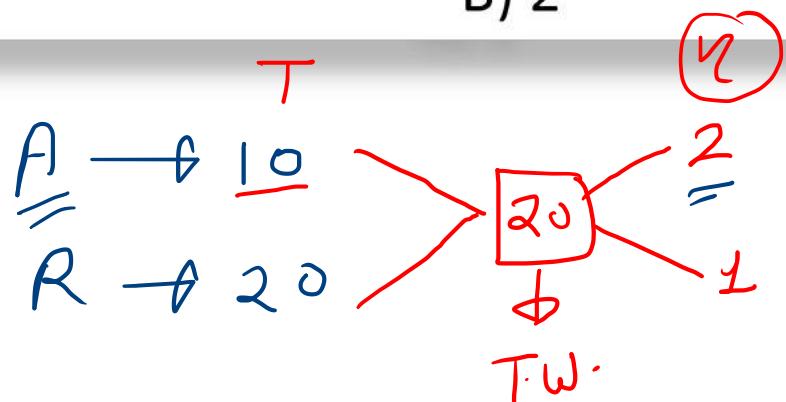
$$\gamma \times T = \text{Work}$$

Left the work-before/After(One left another join)

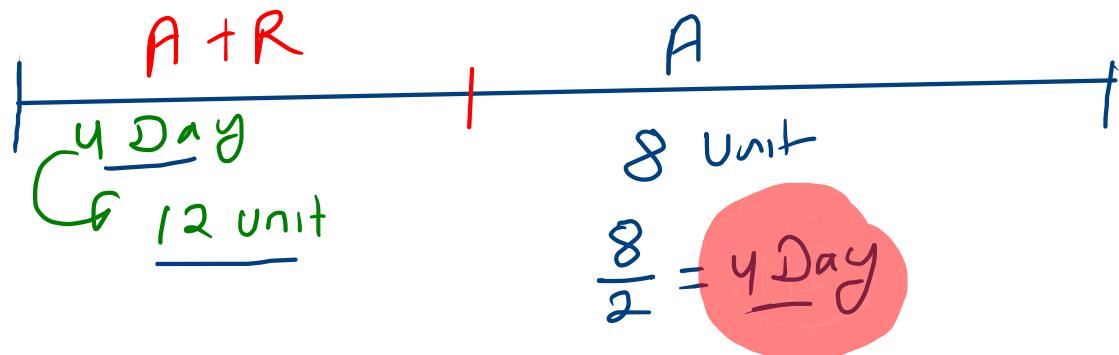
A, B, C 32% C left / D join

Q1) Ajeet can do a job 10 days. Raman can do the same job in 20 days. They together start doing the job but after 4 days Raman leaves. How many more days will be required by Ajeet to complete this job alone?

- A) 4 B) 2 C) 5 D) 3



$$A + R \rightarrow (2+1) \text{ unit/day} = 3 \text{ unit/day}$$





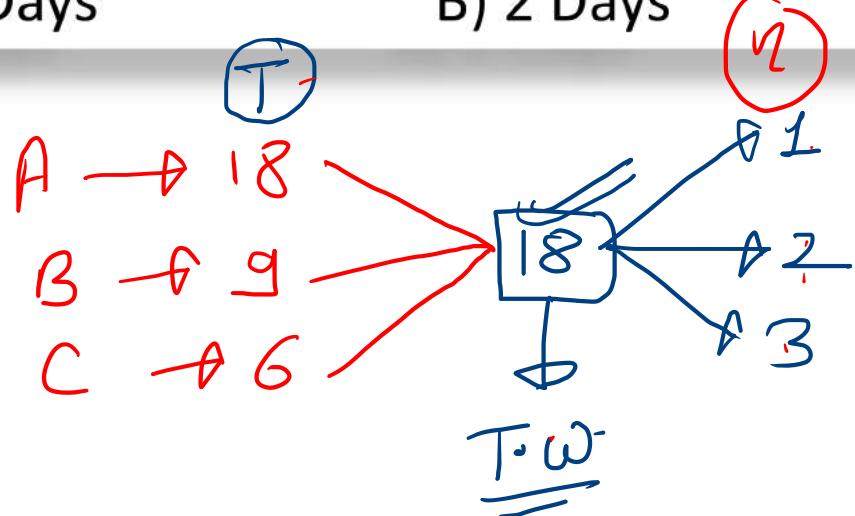
Q2) A can do a work in 18 days, B in 9 days and C in 6 days. A and B start working together and after 2 days C joins then. In how many days will the job be finished?

~~A) 4 Days~~

B) 2 Days

C) 3 Days

D) 5 Days



$$A+B \rightarrow (1+2) \text{ unit/Day} = 3 \text{ unit/Day}$$

$$A+B+C \rightarrow 1+2+3 = 6 \text{ unit/Day}$$

$A+B$	$A+B+C$
3 unit/Day 2 Day 6 unit	6 unit/Day 12 unit 2 Day



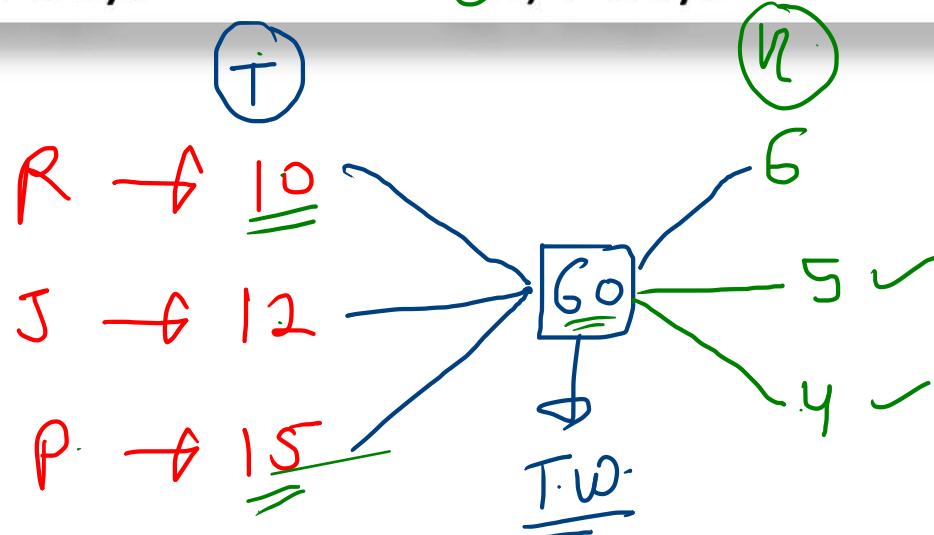
3) Ram can do a piece of work in 10 days, Jaysee in 12 days and Parul in 15 days. They all start together but Ram leaves after 2 days and Jaysee leaves 3 days before the work is completed. In how many days is the work completed?

A) 6 Days

B) 7 Days

C) 5 Days

D) 4 Days



$$\begin{aligned}
 & \text{R} + \text{J} + \text{P} \quad | \quad \text{J} + \text{P} \quad | \quad \text{P} \\
 & \text{15 unit/day} \quad | \quad \text{6 unit/day} \quad | \quad \text{4 unit/day} \\
 & \text{6 day} \quad | \quad \text{2 day} \quad | \quad \text{3 day} \\
 & \text{30 unit} \quad | \quad \text{9 unit/day} \quad | \quad \text{12 unit}
 \end{aligned}$$

4) A can do a bit of work in 25 days which B can complete in 20 days. Both together labor for 5 days and afterward A leaves off. How long will B take to complete the remaining work?

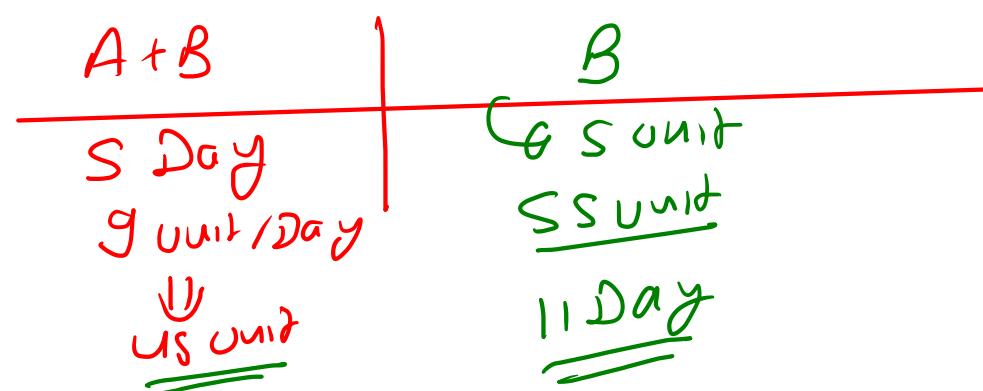
A) 7 days

B) 8 days

C) 9 days

D) 11 days

$$\begin{array}{l} \text{A} \rightarrow 25 \\ \text{B} \rightarrow 20 \end{array} \quad \begin{array}{c} + \\ \longrightarrow \end{array} \quad \begin{array}{c} 100 \\ 5 \end{array}$$



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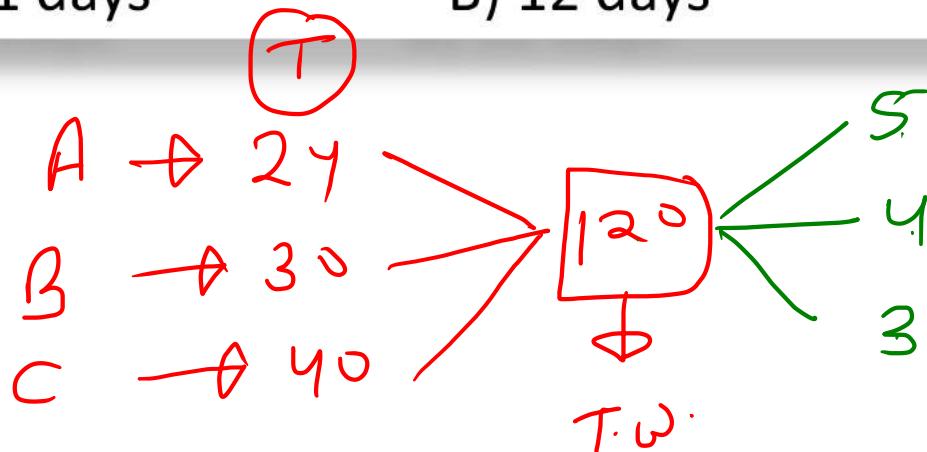
Q5) A, B and C can do a piece of work in 24 days, 30 days and 40 days respectively. They began the work together but C left 4 days before the completion of the work. In how many days was the work completed?

A) 11 days

B) 12 days

C) 13 days

D) 14 days



$$\begin{array}{c}
 \frac{A+B+C}{(120-36)} = 84 \text{ unit} \\
 12 \text{ unit/Day} \\
 \Downarrow \\
 \frac{84}{12} = 7 \text{ Day}
 \end{array}$$

A + B
 4 Day
 9 unit / Day
 36 unit

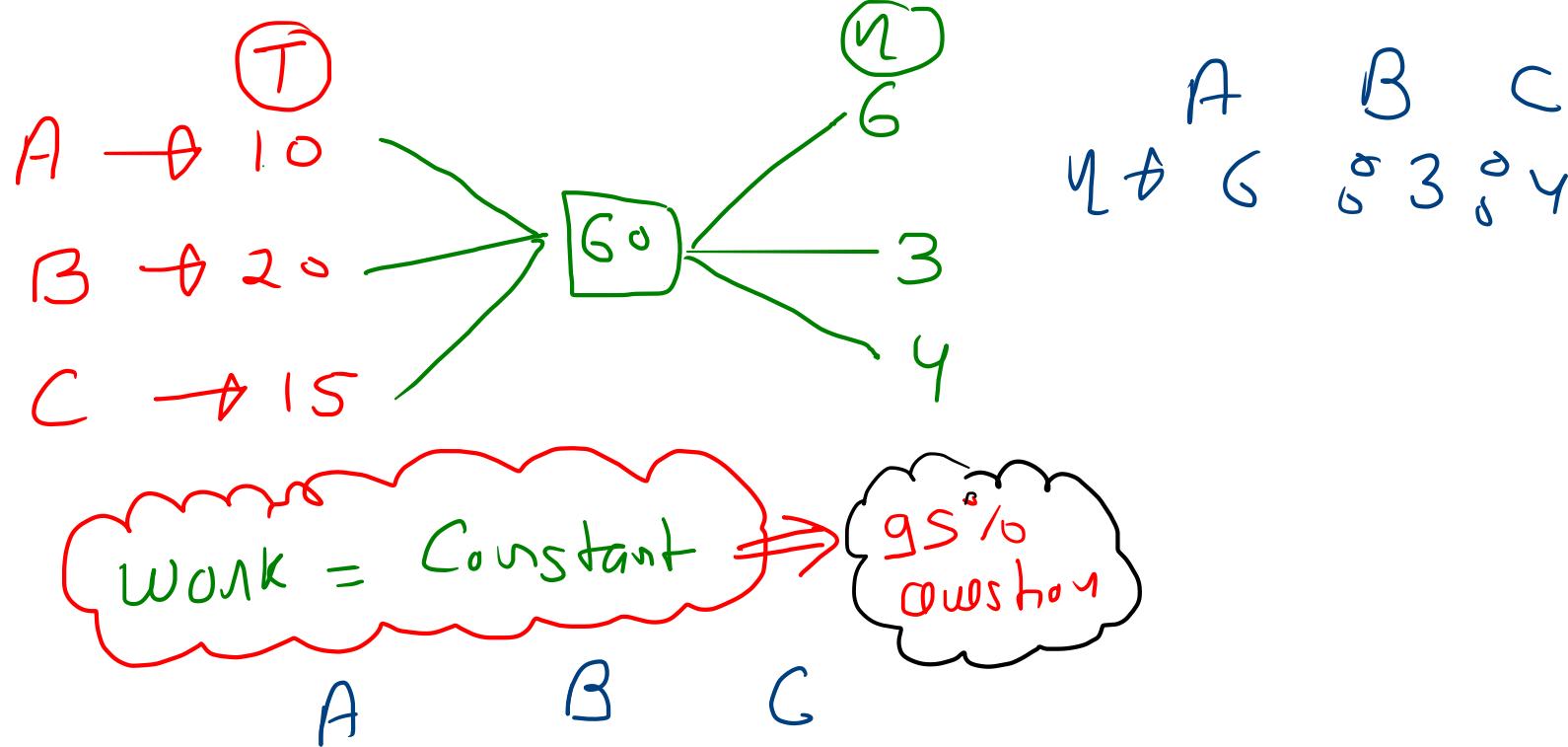
Concept of ratio with efficiency

→ Direct
Many Distribution

$$\eta \times T = \text{Work}$$

95% question → Work = Constant

$$\eta \propto \frac{1}{T}$$



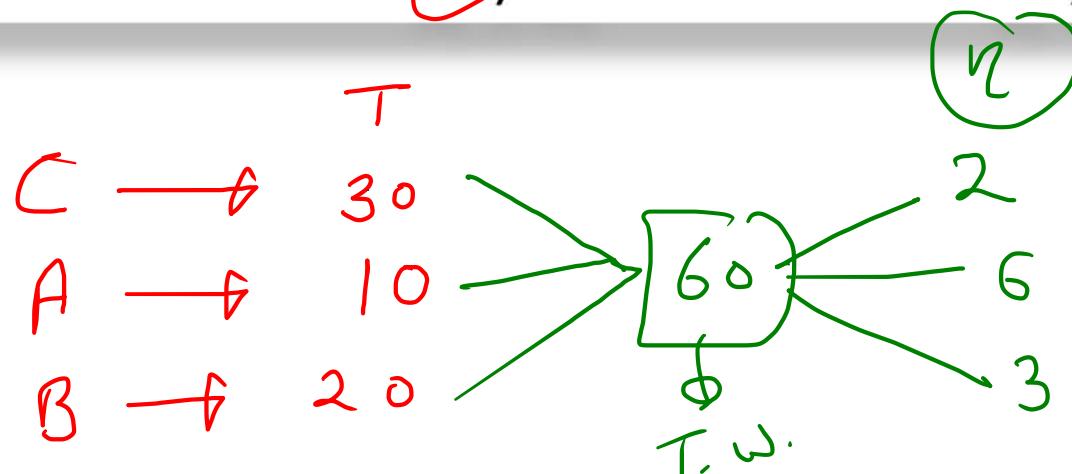
$$\bar{T} \rightarrow 10 : 20 : 15$$

$$2 : 4 : 3$$

$$\begin{array}{c}
 \frac{1}{2} : \frac{1}{4} : \frac{1}{3} \\
 \hline
 G : 3 : 4
 \end{array}$$

Q6) C takes 30 days to finish a work and A is thrice as good as C and twice as good as B. If A, B and C work together, then how many days they will take to finish the work?

- A) 5 B) 5.45 C) 4.45 D) 4



A is thrice as good as C

$$\begin{array}{rcl} A & \rightarrow & C \\ 3 & \rightarrow & 1 \\ T & \rightarrow & 1 \end{array}$$

$$A+B+C+2+6+3 = 11$$

$$\frac{60}{11} = S - \frac{S}{11}$$

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7) A is twice as efficient as B. If they take 6 days to finish a certain job together, how much time will they individually take to complete the work?

A) 9, 18

2 : 2

B) 9, 12

A B

C) 18, 9

2 : 1

D) 12, 9

n → 2 : 1

T → 1 : 2



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8) A can do a certain job in 12 days. B is 60% more efficient than A. How many days does B alone take to do the same job?

- A) 7 B) 7.5 C) 8 D) 8.5

$$A \rightarrow 12$$

$$B \rightarrow \frac{10}{16} \text{ ; } (10 + \frac{60}{100})$$

$$10 \quad ; \quad 16$$

$$S \quad ; \quad 8$$

$$T \rightarrow \frac{8}{25}$$

$$8 \text{ und } \rightarrow 12$$

$$S \text{ und } \rightarrow \frac{12}{8} \times 5$$

$$= 7.5$$

- Q9) A works twice as fast as B. If B can complete a work in 18 days independently, the number of days in which A and B can together finish the work is:
- A) 4 days B) 6 days C) 8 days D) 10 days

$$\begin{array}{ccc} A & & B \\ \eta \rightarrow & \underline{\underline{2}} & : \underline{\underline{1}} \\ T \rightarrow & 1 & : \underline{\underline{2}} \end{array}$$

$$\begin{aligned} \eta \times T &= \text{Work} \\ L \times 18 &= \text{Work} \\ \text{Work} &= 18 \text{ Unit} \end{aligned}$$

$$A + B \rightarrow (2+1) \text{ Unit/Day}$$

$$\frac{18}{3} = \underline{\underline{6 \text{ Day}}}$$

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10) The ratio of efficiency of A is to C is 5:3. The ratio of number of days taken by B is to C is 2:3. A takes 6 days less than C, when A and C completes the work individually. B and C started the work and left after 2 days. The number of days taken by A to finish the remaining work is:

A) 4.5

B) 5

C) 6

D) 9(1/3)

$$\begin{array}{c} A : C \\ \eta \rightarrow S : 3 \\ \downarrow T \rightarrow 3 : 5 \\ \downarrow g \text{ Day} \quad 15 \text{ Day} \end{array}$$

$$2 \text{ unit} \rightarrow 6 \text{ Day}$$

$$1 \text{ unit} \rightarrow 3 \text{ Day}$$

$B + C$

$$15 \times 2 = 30$$

$$\begin{array}{c} B : C \\ T \rightarrow 2 : 3 \\ \eta \rightarrow 3 : 2 \end{array}$$

$$T \cdot W = 9 \times 10$$

$$= 90 \text{ unit}$$

$$\begin{array}{c} A : B : C \\ \eta \rightarrow 10 : 9 : 6 \\ \downarrow g \text{ Day} \end{array}$$

(A)

$\frac{60}{10} = 6 \text{ Day}$

A 2 C

B 2 C

(5 0 3) × 2

10 0 6

(3 0 2) × 3

9 0 6

A 0 B 0 C

10 0 9 0 6

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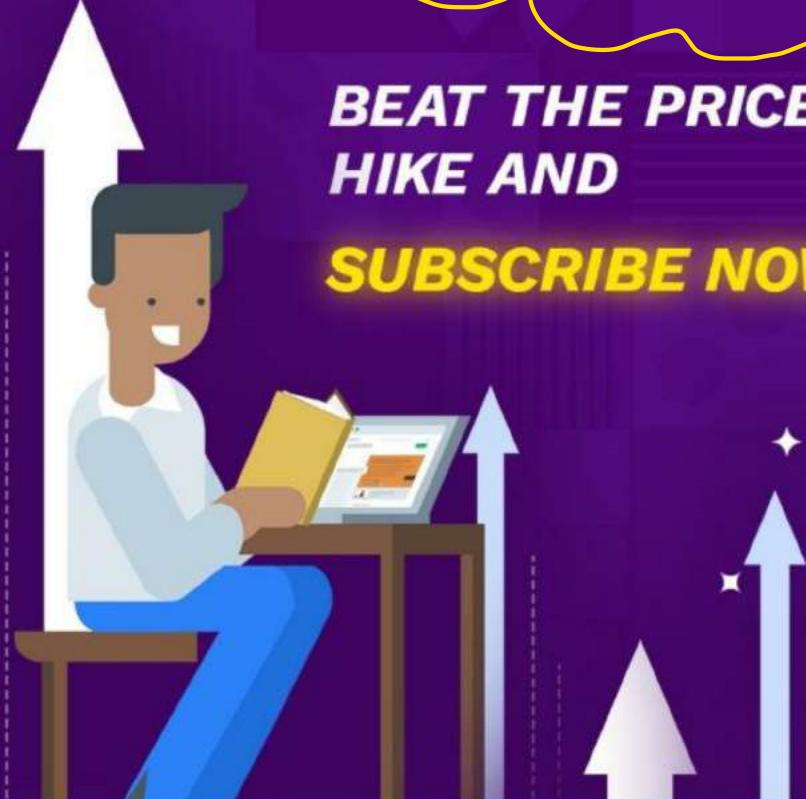
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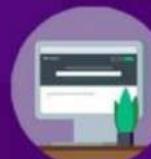
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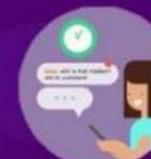
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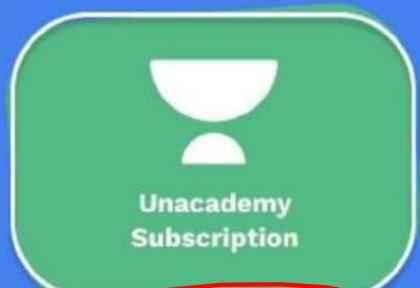


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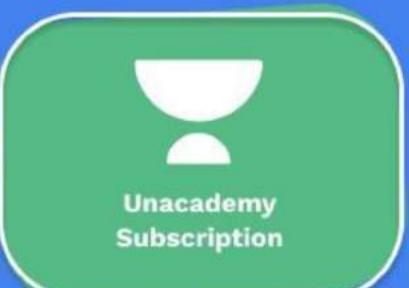
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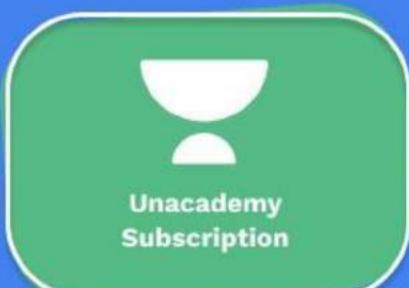
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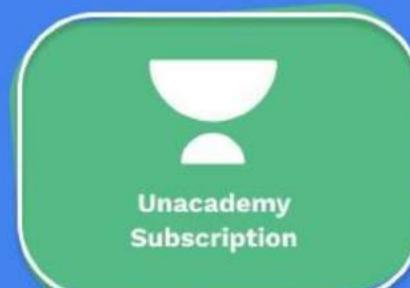
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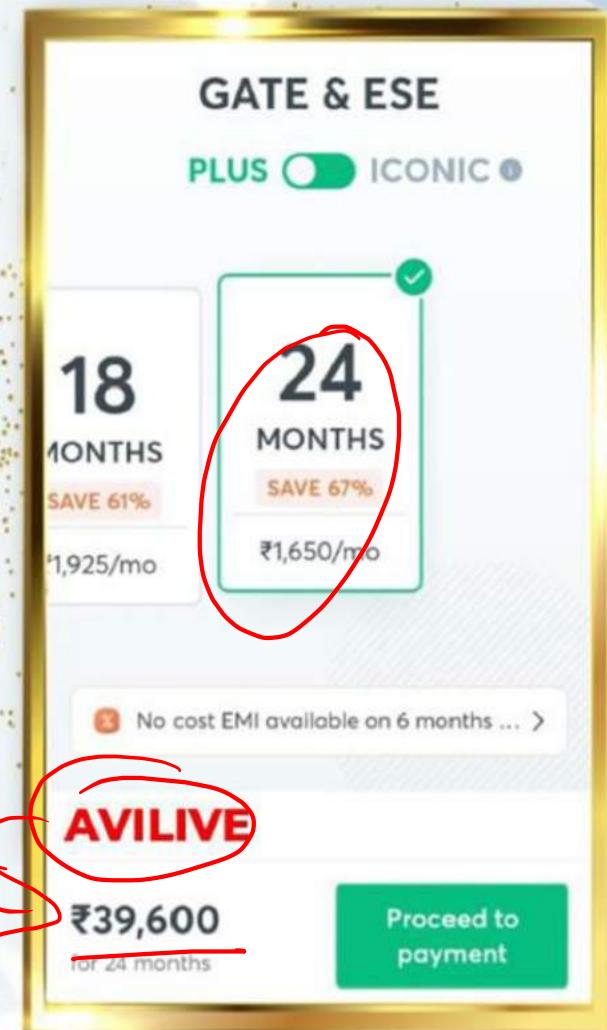
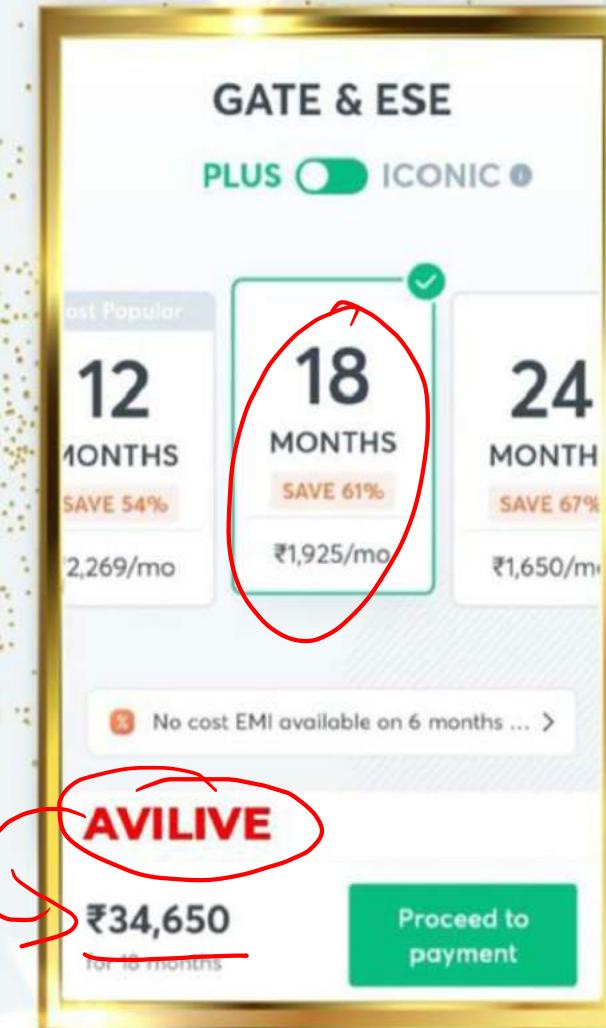
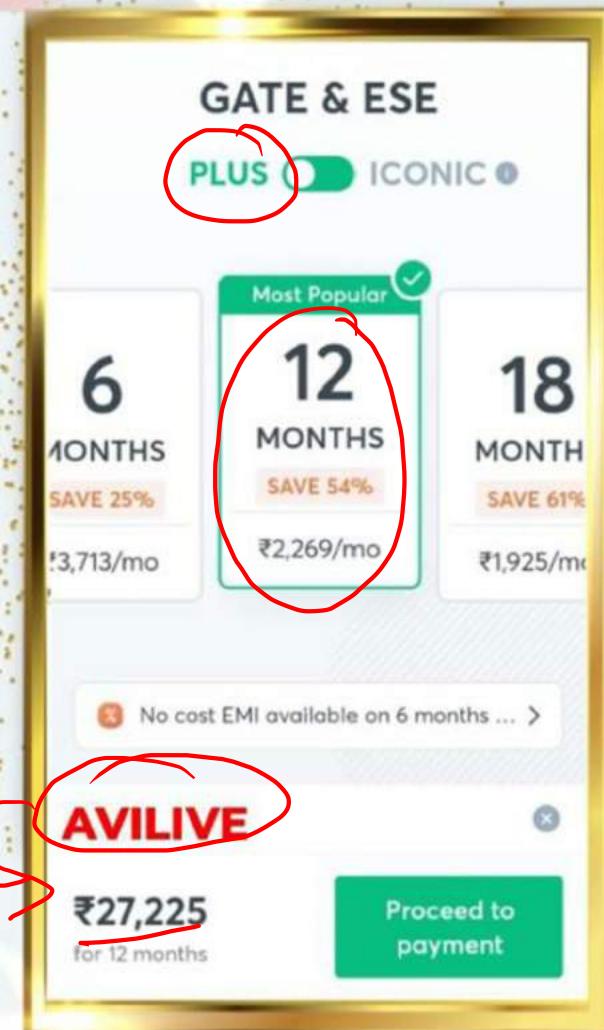
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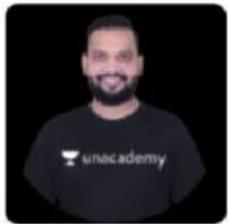
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Educator highlights

- Worked at GATE ACADEMY
- Cracked GATE Exam Multiple time
- Lives in Durg, Chhattisgarh, India
- Unacademy Educator since 29th September, 2020
- 35,900 live minutes taught in last 30 days
- Knows Hindi and English

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