

GATE 2021

GENERAL APTITUDE

धमाकेदार ट्रिक के साथ 🔥🔥

**TIME & WORK -7,
PREVIOUS YEAR QUESTIONS
DISCUSSION**



unacademy

AVINASH SIR

AVINASH SINGH SIR

GATE | EE (CE)



Secured Score 99.86% in
CAT (Quantitative Section)



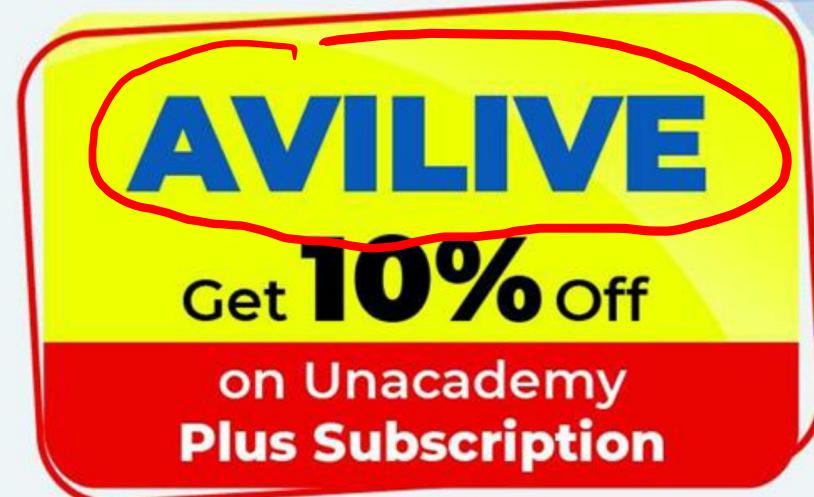
GATE/ESE:

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



RIB



Crash Courses



Weekly Tests



Doubt Solving



English & Hindi



Preparatory Study Material

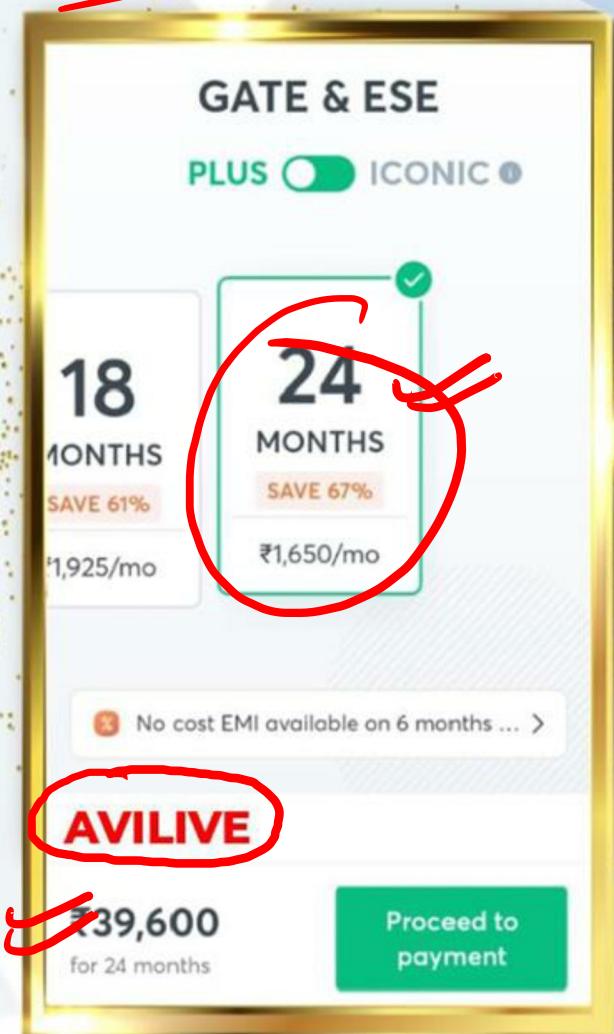
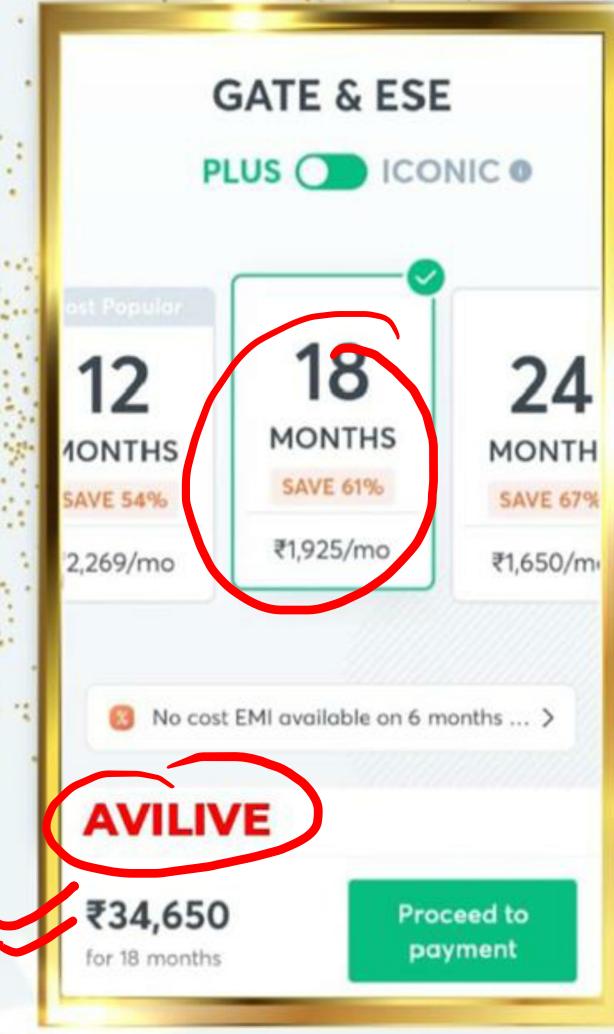
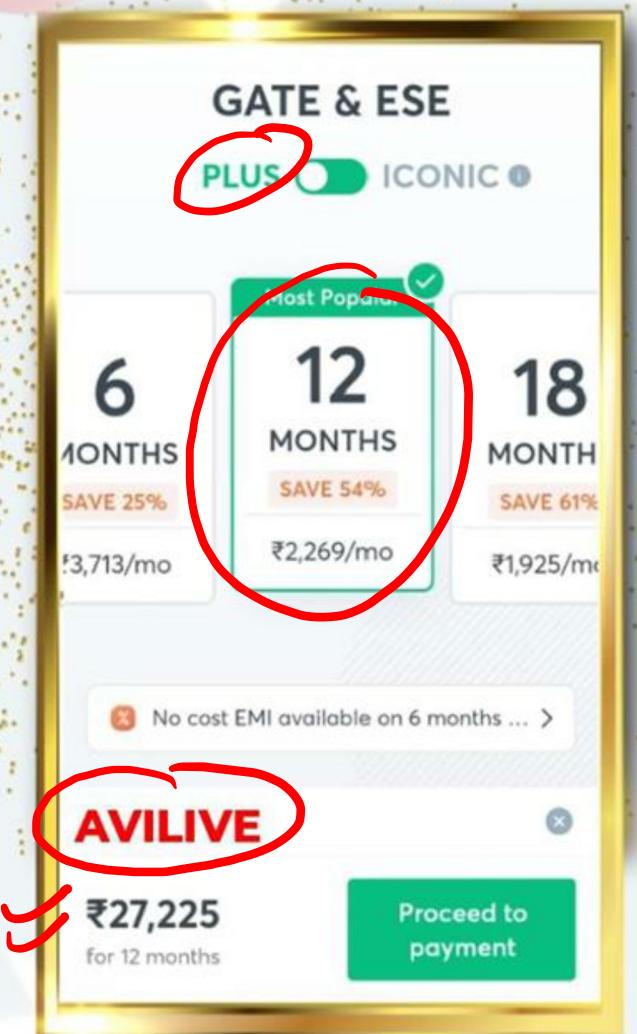
Specialised notes & practice sets.

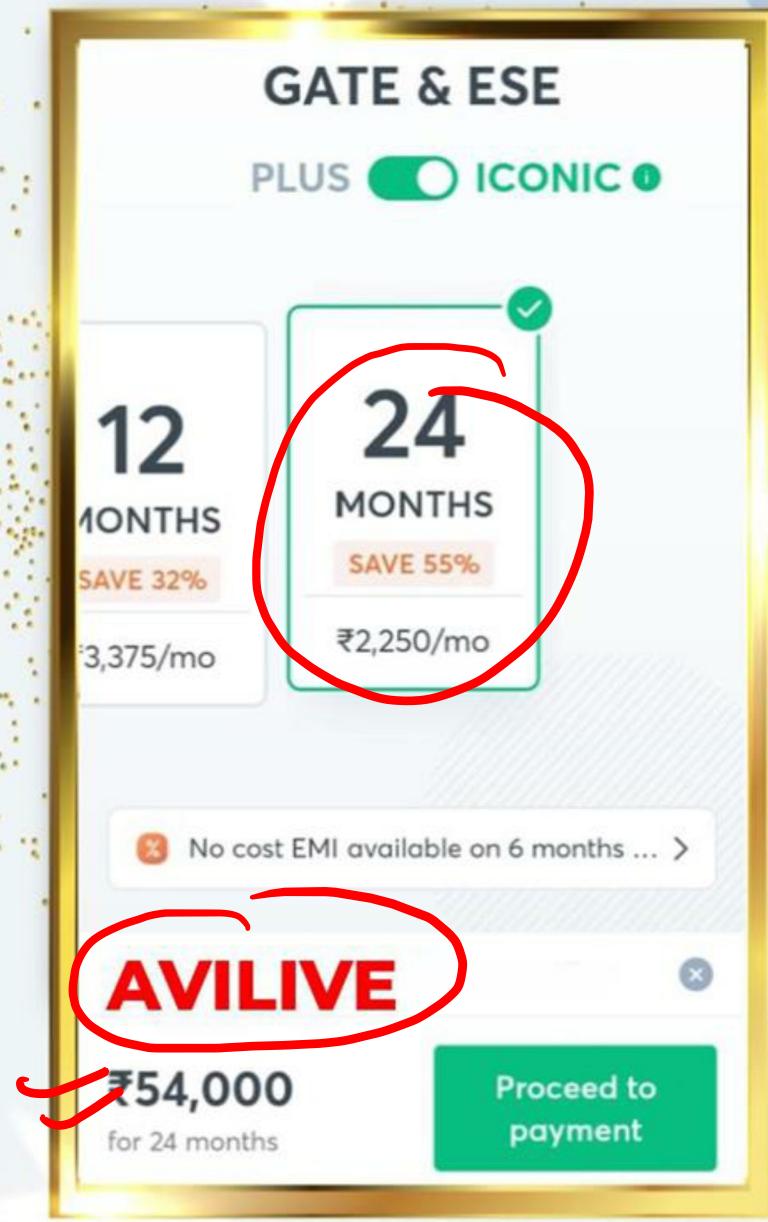
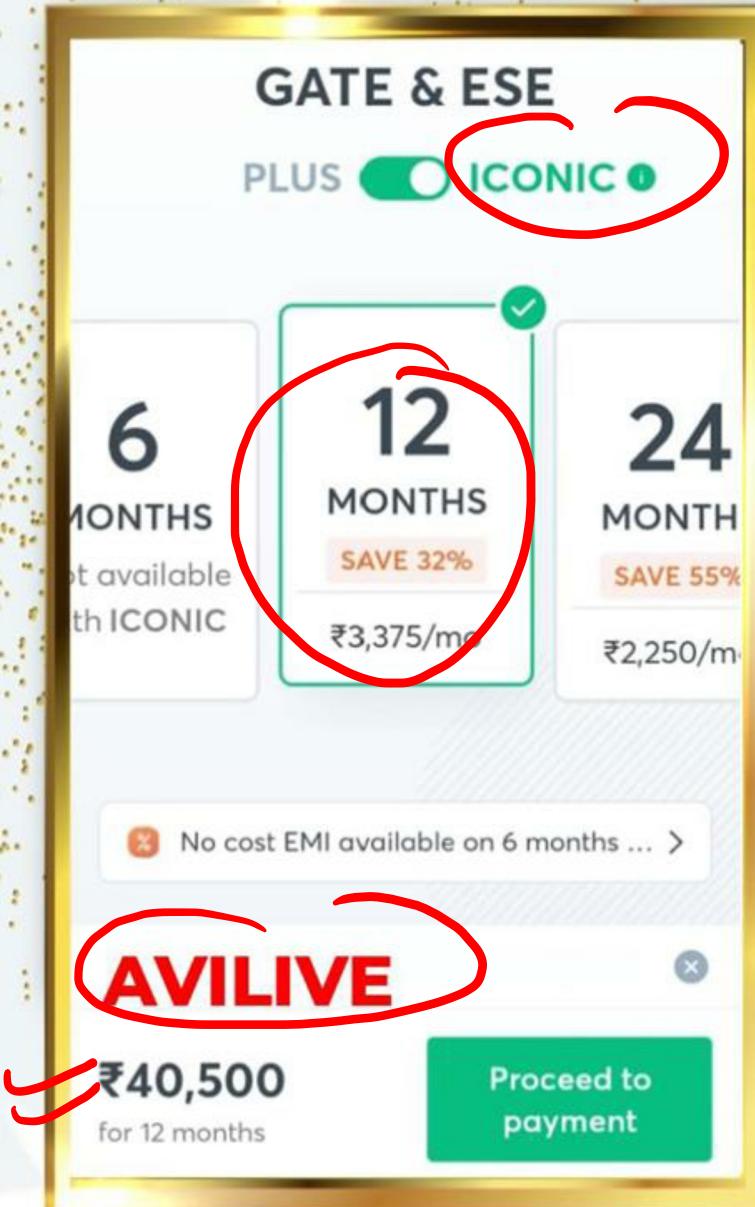
Complete Package To CRACK GATE/ESE

The image displays a grid of 15 educational modules for GATE/ESE preparation, arranged in three rows and five columns. Each module is represented by a colored box containing the subject name, the Unacademy logo, and a photo of the instructor.

- FLUID MECHANICS** (Top Left): Instructor - Mrigank Sir
- STRENGTH OF MATERIALS** (Top Middle): Instructor - Abhishek Sir
- DESIGN OF STEEL STRUCTURE** (Top Right): Instructor - Babulal Sir
- GEOTECHNICAL ENGINEERING** (Second Row, Left): Instructor - Abhishek Sir
- REINFORCED CEMENT CONCRETE (RCC)** (Second Row, Middle): Instructor - Aishwary Sir
- RCC** (Second Row, Right): Instructor - Kshitij Sir
- OPEN FLOW CHANNEL** (Second Row, Far Right): Instructor - Mrigank Saurav Sir
- IRRIGATION ENGINEERING** (Third Row, Left): Instructor - Chetan Sir
- STRUCTURAL ANALYSIS** (Third Row, Middle): Instructor - Aishwary Sir
- SURVEYING** (Third Row, Right): Instructor - Kshitij Sachan Sir
- GEOTECHNICAL ENGINEERING** (Bottom Left): Instructor - Aishwary Sir
- ENVIRONMENTAL ENGG** (Bottom Middle Left): Instructor - Mrigank Saurav Sir
- ENGINEERING HYDROLOGY** (Bottom Middle Right): Instructor - Chetan Sir
- HIGHWAY ENGINEERING** (Bottom Right): Instructor - Kshitij Sachan Sir

2nd & 3rd





~~Analytical Aptitude~~

- Venn Diagram
- Syllogism *S:00PM*
- Series
- Coding & Decoding
- Odd Man out
- Distance & Direction
- Blood Relation
- Seating Arrangements
- Clock & Calendar

~~Quantitative 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

~~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



TIME & WORK

EC | EE | ME | CE | IN | CS | CH

2010 (IIT Guwahati)

Number of
question - 1

2011 (IIT Madras)

Number of
question - 1

2012 (IIT Delhi)

Number of
question - 0

2013 (IIT Bombay)

Number of
question - 1

For detail discussion on each topic join [unacademy](#)

2014 (IIT Kharagpur)

Number of
question - 1

2015 (IIT Kanpur)

Number of
question - 0

2016 (IISc Bangalore)

Number of
question - 3

2017 (IIT Roorkee)

Number of
question - 3

Use code "AVILIVE" to get Maximum discount on unacademy Plus Subscription

2018 (IIT Guwahati)

Number of
question - 2

2019 (IIT Madras)

Number of
question - 5

2020 (IIT Delhi)

Number of
question - 1

2021 (IIT Bombay)



Boost Your Preparation with Avinash Singh Sir

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON


plus
Subscription

Home Work Question

How many men will be required to plough 100 acres of land in 10 days. If 10 men required 8 days to plough 20 acres of land?

Ans:-

M D Y

$$\frac{100}{x \times 10} = \frac{20}{10 \times 8}$$

$x = 40$

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription

Concept of alternate Day

A, B

1st 2nd 3rd 4th
A B A B A B

B A B A B A

USE CODE

AVILIVE

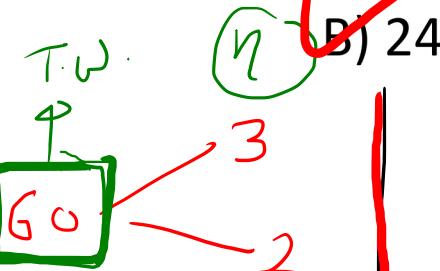
TO GET
MAX DISCOUNT ON



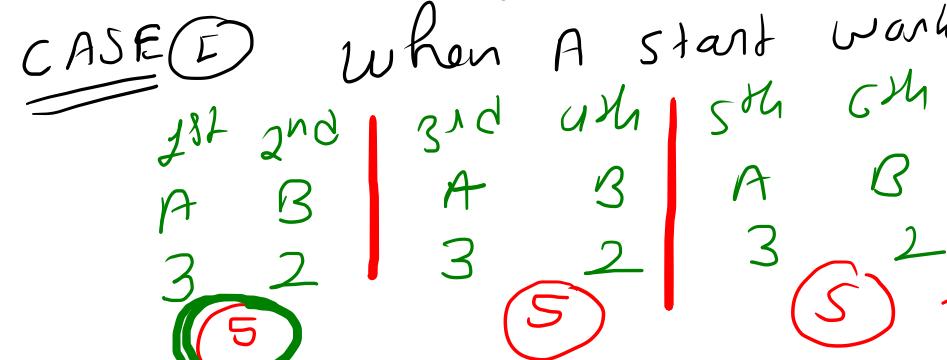
1) A & B can complete a work in 20 days and 30 days respectively. If they work on alternate days, Find the number of days in which the work will be completed.

A) 20

A 20
B 30



CASE (I) When A start work



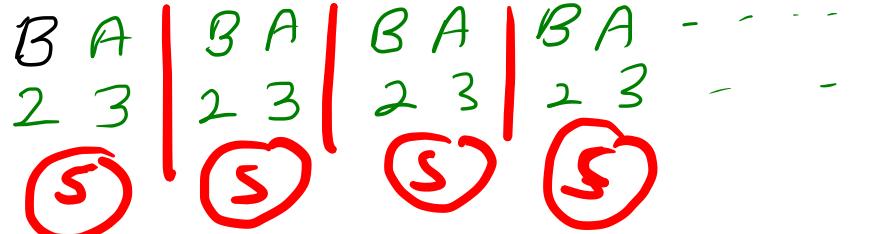
D) 30

2 Day \Rightarrow 5 Unit

24 Day \Rightarrow 12 \times 5 = 60 Unit

24 Day

CASE (II) When B start work



2 Day \Rightarrow 5 Unit

24 Day \Rightarrow 60 Unit

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

plus
Subscription

✓ 2) A & B can complete a work in 10 days and 20 days respectively. If they work on alternate days, Find the number of days in which the work will be completed.

$$\begin{array}{l} \text{A) } 10 \\ \text{B) } 20 \\ \text{C) } 13 \\ \text{D) can't say} \end{array}$$

A $\rightarrow 10$
 B $\rightarrow 20$

T.W
 1
 2
 1
 20

CASE I when A start the work

$\frac{A}{2} \frac{B}{2} \frac{A}{2} \frac{B}{2} \frac{A}{2} \frac{B}{2} \dots$ (Pain)

(3) (3) (3) (3) ...

2 Day \rightarrow 3 unit

12 Day \rightarrow 18 unit

(A) 13th Day \rightarrow 2 unit

~~13 Day \rightarrow 2 unit~~

CASE II
 when B start the work

$B \frac{A}{2} \frac{B}{2} \frac{A}{2} \frac{B}{2} \frac{A}{2} \frac{B}{2} \dots$

(3) (3) (3) (3) ...

12 Day

~~13 $\frac{1}{2}$ Day~~

2 Day \rightarrow 3 unit

12 Day \rightarrow 18 unit

(B) 13th Day \rightarrow 1 unit

(A) 14th Day \rightarrow $\frac{1}{2}$ Day \rightarrow $\frac{1}{2}$ unit

MSG

3) A & B can complete a work in 10 days and 20 days respectively. If they work on alternate days, Find the least number of days in which the work will be completed.

A) 10

B) 13

C) $13\frac{1}{2}$

D) 15

A start $\rightarrow 13 \frac{1}{2}$ day
B start $\rightarrow 13 \frac{1}{2}$ Day

USE CODE

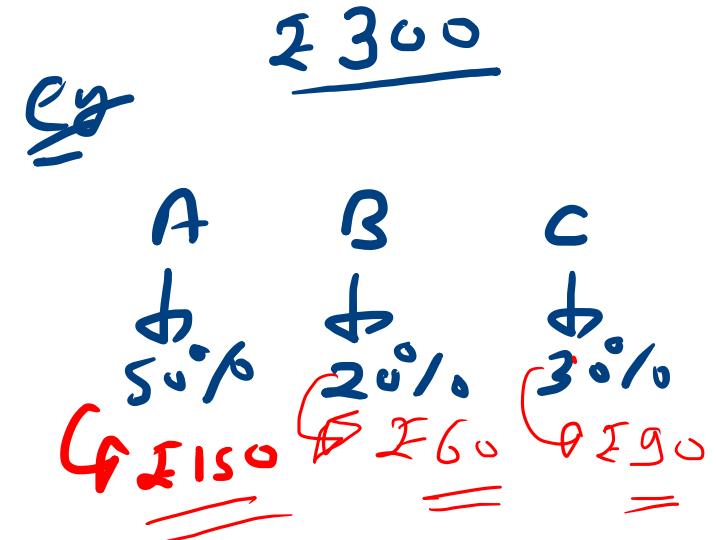
AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription

✓ Concept of Work & Wages

Wages \propto Work done



USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON



Concept of Work & Wages

Wages $\propto w$

Wages $\propto \eta$

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

T = Constant

$\eta \propto w$

eg $(A+B) \xrightarrow{\text{4uDay}} \frac{u}{\text{Day}}$

Note:-

If people work for equal amount of time then we can divide wages in the ratio of their efficiency

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON



Concept of Work & Wages

CASE I when T is not same

Wages \propto workdone

CASE II when T is same

Wages \propto η

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription

✓) A, B, and C can do piece of work in 12, 15 and 20 days respectively. They completed the work together and got ₹ 240 for job. What is A's share?

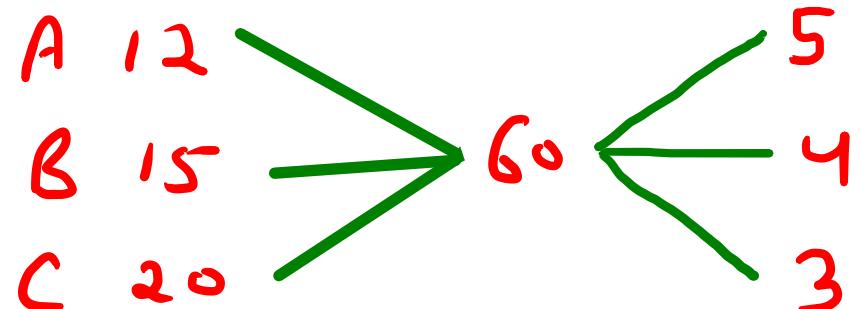
A) ₹100

B) ₹110

⑦

C) ₹120

D) ₹200



$$A+B+C \rightarrow 12+15+20$$

↓ ↓ ↓
Same time

wages $\propto \eta$

$$\eta \rightarrow A : B : C$$

$$5 : 4 : 3$$

$$5+4+3 \rightarrow 240$$

$$A's\ share = 20 \times 5 = 100$$

$$B's\ share = 20 \times 4 = 80$$

$$C's\ share = 20 \times 3 = 60$$

$$12 \rightarrow 240$$

$$1 \rightarrow 20$$

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription

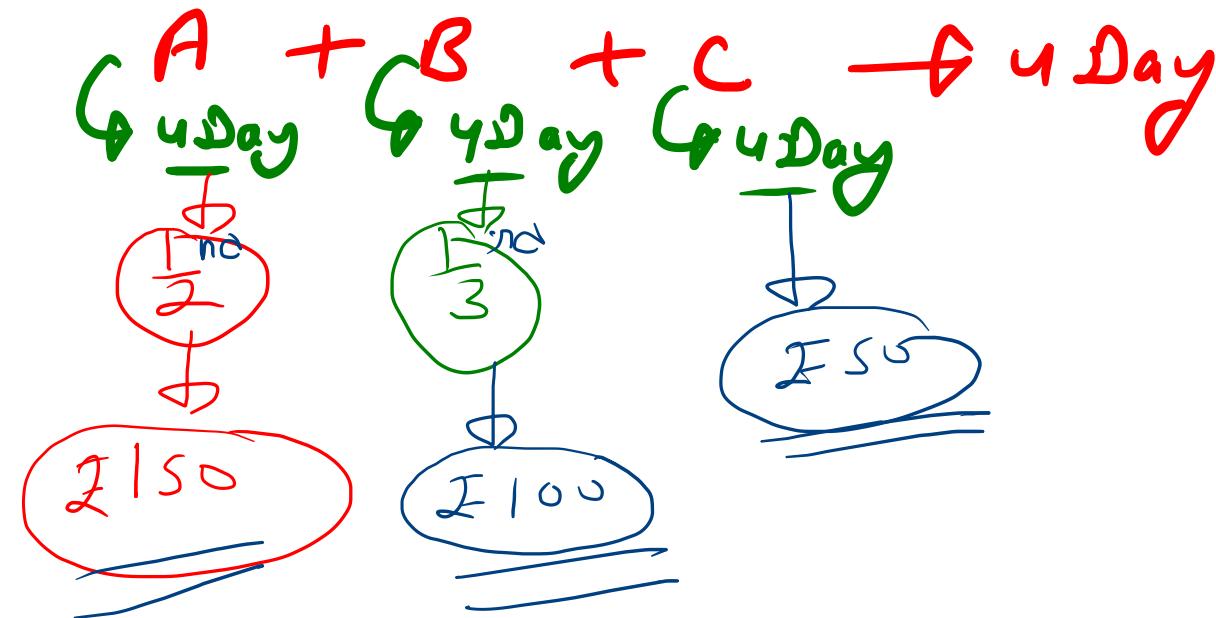
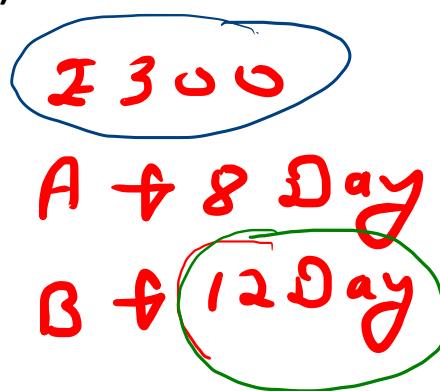
✓) A and B promised to complete a work for ₹300. A can do this work in 8 days and B can do this work in 12 days. With the help of C they completed the work in 4 days. Find out C's share?

A) ₹150

B) ₹100

C) ₹50

D) NOTA



USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

 **plus**
Subscription

5) A and B promised to complete a work for ₹300. A can do this work in 8 days and B can do this work in 12 days. With the help of C they completed the work in 4 days. Find out C's share?

A) ₹150

B) ₹100

C) ₹50

D) NOTA

USE CODE

AVILIVE

TO GET

MAX DISCOUNT ON



- ~~**~~ 6) If 6 men working 8 hours a day earn ₹ 1680 per week, then 9 men working 6 hours a day will earn per week:
- A) ₹ 1680 B) ₹ 1920 C) ₹ 2680 D) ₹ 1890
- [AAI(ATC)-2016]

$$\begin{array}{c} \text{M} \\ \boxed{6 \times (\cancel{7} \times 8)} \\ \cancel{6} \times 1680 \\ \hline \end{array}$$

$$\begin{array}{c} \text{D} \\ \boxed{9 \times (\cancel{7} \times 6)} \\ \cancel{9} \times ? \\ \hline \end{array}$$

$$\begin{array}{c} 6 \times 7 \rightarrow \frac{1680}{8} \\ \cancel{8} \\ 9 \times 6 \times 7 \rightarrow \frac{1680}{\cancel{8}} \times 9 \\ = 1890 \end{array}$$

~~H.W.~~

7) Pooja employs 8 workers to work for 6 hours per day. In total he pays them ₹630 for a week. How much should Pooja pay 18 workers working 4 hours per day for a week?

A) ₹945

B) ₹ 645

C) ₹630

D) ₹1050

USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON





Home Work Question

A can do a piece of work in 12 days and B can do the same work in 14 days. In how many days they will complete the work together if they work on alternate days and the work is started by A.

- A) 12(6/7)
- B) 13(6/7)
- C) 14(6/7)
- D) 15(6/7)

USE CODE

AVILIVE

TO GET

MAX DISCOUNT ON

 **plus**
Subscription



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

USE CODE

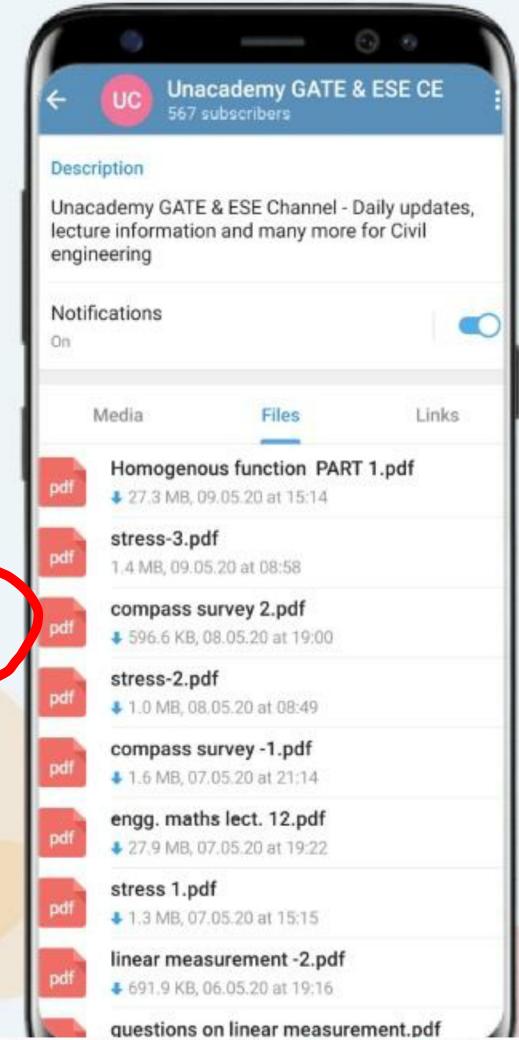
AVILIVE

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



Thank You



USE CODE

AVILIVE

TO GET
MAX DISCOUNT ON

