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GATE 2021

GENERAL APTITUDE

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PROBABILITY-3,
BASIC CONCEPT



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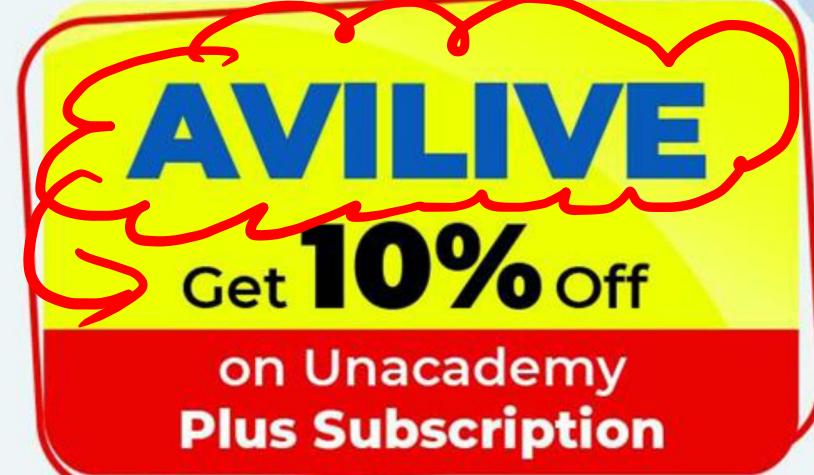
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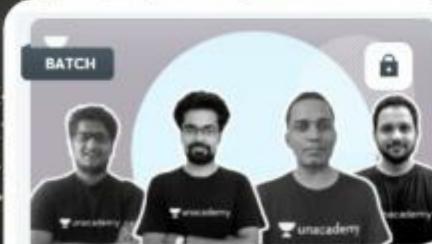
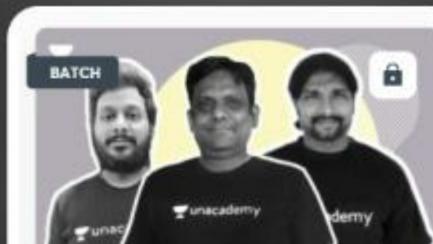
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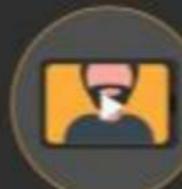
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Spatial Aptitude



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(All Branches)



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CAT 99.86%iler
(Quantitative)

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General Aptitude

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Quantitative Aptitude

Spatial Aptitude

Verbal Aptitude

25

Analytical Aptitude

- Paper folding and Cutting
- 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

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General Aptitude

Quantitative
Aptitude

Analytical
Aptitude

Verbal
Aptitude

Spatial
Aptitude



- Venn Diagram
- Syllogism
- Series
- Analogy
- Puzzle

25

- Coding & Decoding
- Distance & Direction
- Blood Relation
- Seating Arrangements
- Clock & Calendar

AAE

Tejas Batch (Starting from 25th Jan)

Faculty	Subject	Date (from)	Date (to)	Time
Ankit Goyal	Physics	25th Jan	18th Feb	12:00 PM
Pallav Gaur	Physics	25th Jan	13th Feb	2:30 PM
Avinash Singh	Quantitative Reasoning + Maths	25th Jan	24th April	7:30 PM
Vishal Soni	Maths & Physics	1st Feb	24th April	5:00 PM
Saket Verma	Physics	15th Feb	3rd March	2:30 PM

Pattern

Total 10 Questions

1) Five Question
Each question 1 mark

2) Five Question
Each question 2 mark

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Analytical Aptitude

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

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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Today's Class Agenda



➤ Basic Concept of Probability

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Probability

$$P(E) = \frac{N(E)}{N(S)} = \frac{\text{Total no of ways event } E \text{ can occurs}}{\text{Total no of possible outcomes}}$$

Experiment
S.S.
Event

Assumes that all outcomes are equally likely

* S.S. must be finite.

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Probability

- Probability is the chance that something is the case or that an event will occur.
- Probability does not tell exactly what will happen, it is just a guide.
- Probability is represented as a pure number P in the range $0 \leq P \leq 1$

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Definitions related to probability

Sample Space

Event

Compound Event

➤ Mutually Exclusive Events

➤ Independent Events

➤ Dependent Events

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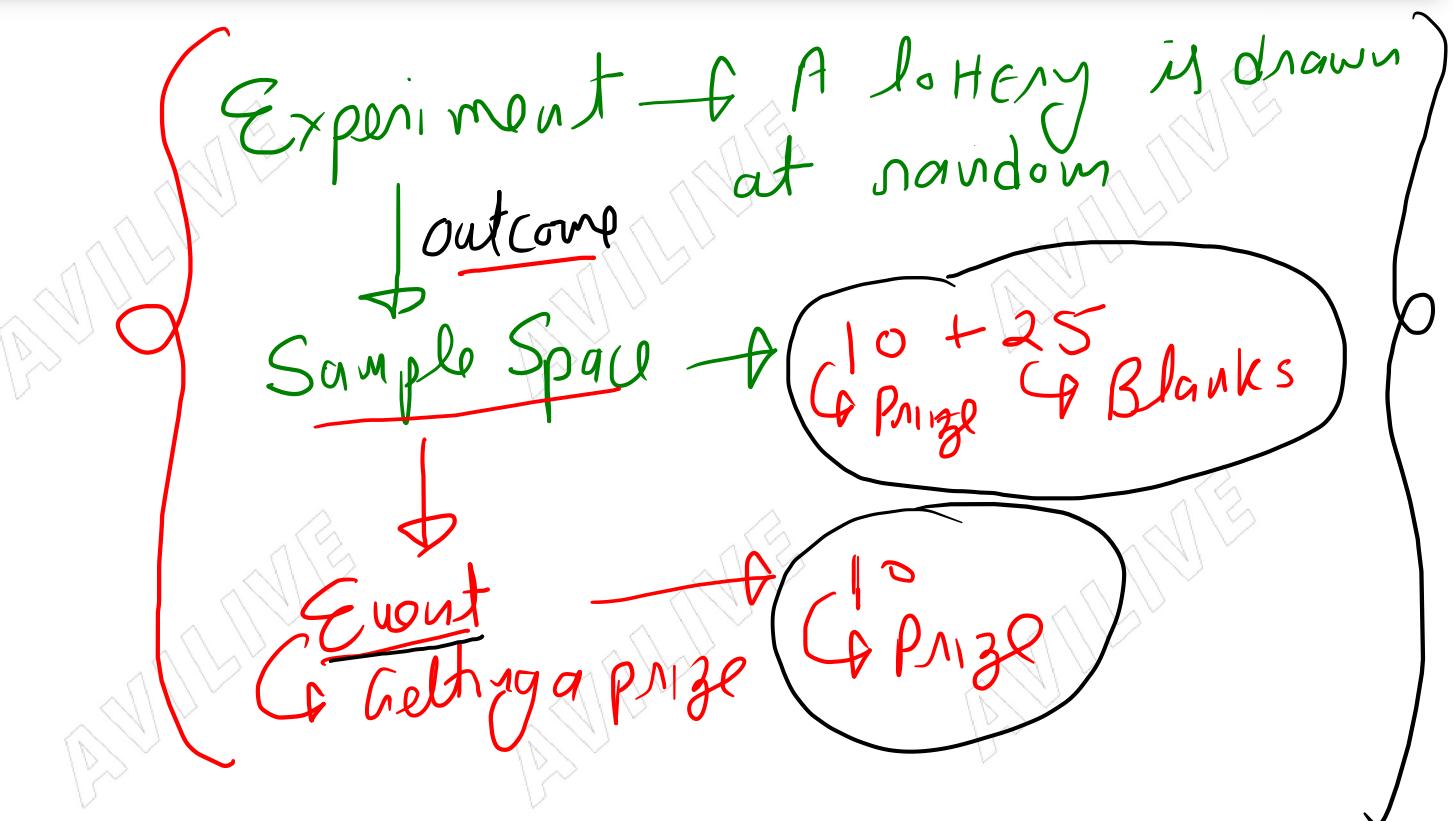
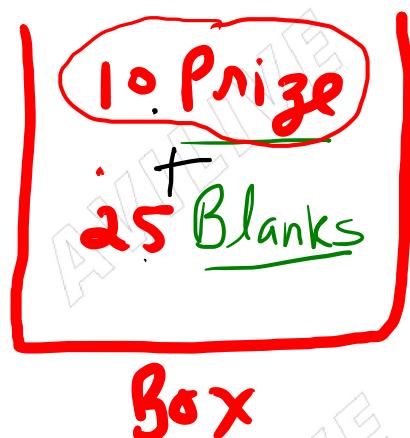
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1) In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

A) $\frac{2}{7}$ B) $\frac{5}{7}$ C) $\frac{1}{5}$ D) $\frac{1}{2}$ 

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- 1) In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?
- A) $\frac{2}{7}$ B) $\frac{5}{7}$ C) $\frac{1}{5}$ D) $\frac{1}{2}$

$$P(E) = \frac{N(E)}{N(S)} = \frac{\text{Total no of ways event } E \text{ can occurs}}{\text{Total no of possible outcomes}}$$

$$= \frac{10}{10+25} = \frac{10}{35} = \frac{2}{7}$$

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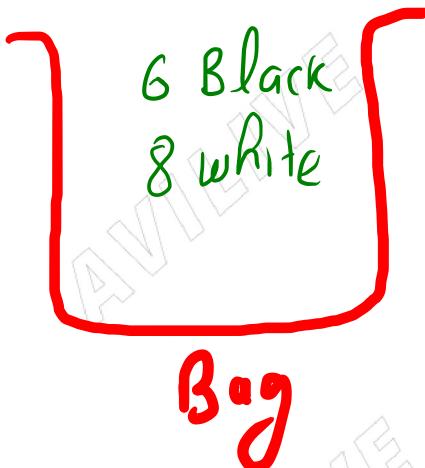
2) A bag contains 6 black and 8 white balls. One ball is drawn at random. What is the probability that the ball drawn is white?

A) $3/7$

B) $4/7$

C) $1/8$

D) $3/4$



Experiment → One ball is drawn at random

↓
Sample Space → $6 + 8$

↓
Event
→ ball drawn is white

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- 2) A bag contains 6 black and 8 white balls. One ball is drawn at random. What is the probability that the ball drawn is white?
- A) $3/7$ ✓ B) $4/7$ C) $1/8$ D) $3/4$

$$P(E) = \frac{N(E)}{N(S)} = \frac{\text{Total no of ways event } E \text{ can occurs}}{\text{Total no of possible outcomes}}$$

$$= \frac{8}{6+8} = \frac{8}{14} = \frac{4}{7}$$

B



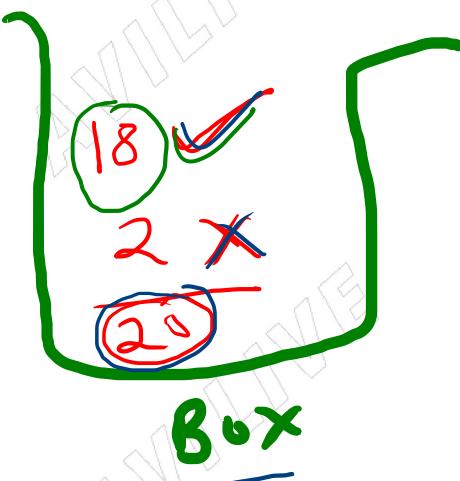
3) Of the 20 light bulbs in a box, 2 are defective. An inspector will select 2 light bulbs simultaneously and at random from the box. What is the probability that neither of the light bulbs selected will be defective?

A) $\frac{9}{10}$

B) $\frac{17}{19}$

C) $\frac{341}{190}$

D) $\frac{153}{190}$



Experiment \rightarrow 2 light bulb draws
Simultaneously

outcome

Sample Space \rightarrow

Event \rightarrow

$$20C_2$$

$$18C_2$$

$$P(E) = \frac{18C_2}{20C_2}$$

$$= \frac{153}{190}$$

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HINDI GENERAL APTITUDE

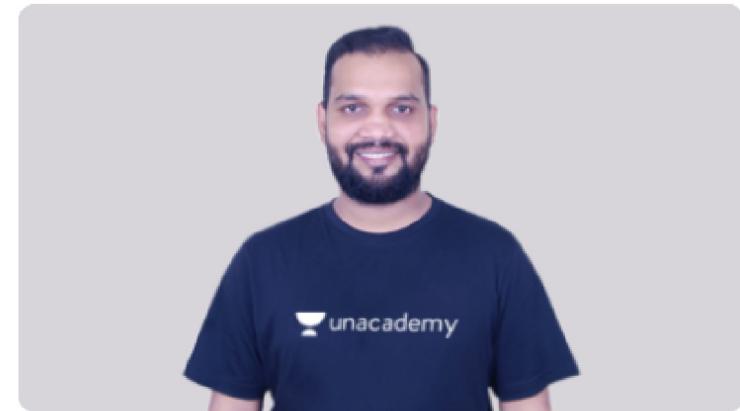
Probability Problem on Bag & Ball (All Branches)

Starts on Jan 24, 2021 • 6:30 PM

24 Jan 2021
6:30 PM

In this class, I am going to discuss Probability Trick: Probability problems based on Bag & Ball. This is useful for all branches. I will also cover the question asked in the various AE/JE Exam like DMRC, NMRC, LMRC, DFCCIL, UPPCL, etc. So, you will understand t...

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- 4) A certain jar contains 60 jelly beans- 22 white, 18 green, 11 yellow, 5 red and 4 purple. If a jelly bean is to be chosen at random, what is the probability that the jelly bean will be neither red nor purple?
- A) 0.09 B) 0.15 C) 0.54 D) 0.85

60 Jelly Beans
Jar

- 22 white
- 18 Green
- 11 yellow
- 5 Red
- 4 Purple

$$P(E) = \frac{22 + 18 + 11}{60} = \frac{51}{60} = 0.85$$



5) In a class of 40 students, 25 are sports persons and 25 are mathematicians. What is the probability that the monitor of the class is both a sports person and a mathematician?

A) $\frac{1}{40}$

B) $\frac{1}{25}$

C) $\frac{1}{4}$

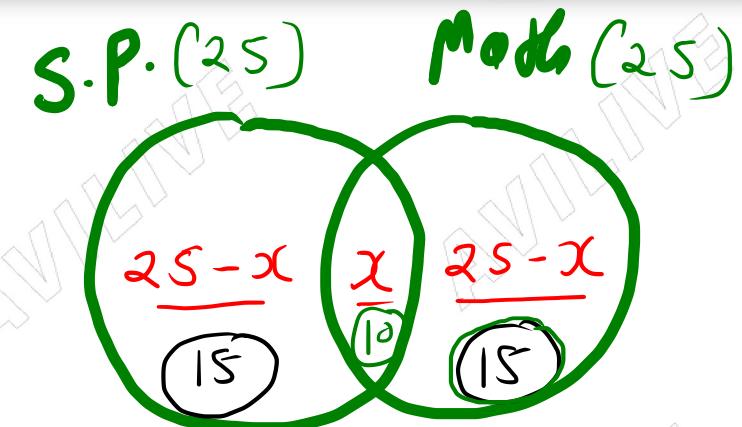
D) $\frac{1}{50}$

40 Student

$$\frac{10}{40} \rightarrow \frac{1}{4}$$

only Mathematician

$$\frac{15}{40} = \frac{3}{8}$$



$$25 - x + x + 25 - x = 40$$

$$x = 10$$



5) In a class of 40 students, 25 are sports persons and 25 are mathematicians. What is the probability that the monitor of the class is both a sports person and a mathematician?

A) $\frac{1}{40}$

B) $\frac{1}{25}$

C) $\frac{1}{4}$

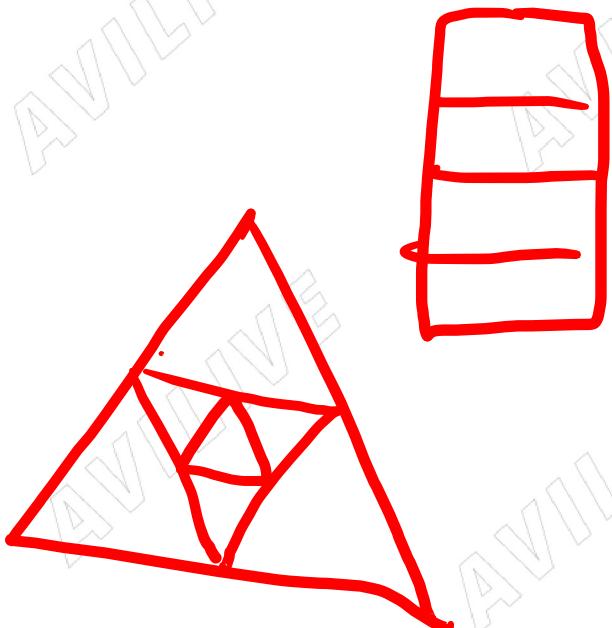
D) $\frac{1}{50}$

$$P(E) = \frac{N(E)}{N(S)} = \frac{\text{Total no of ways event } E \text{ can occurs}}{\text{Total no of possible outcomes}}$$

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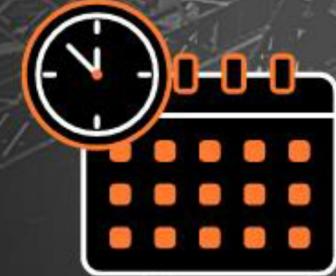
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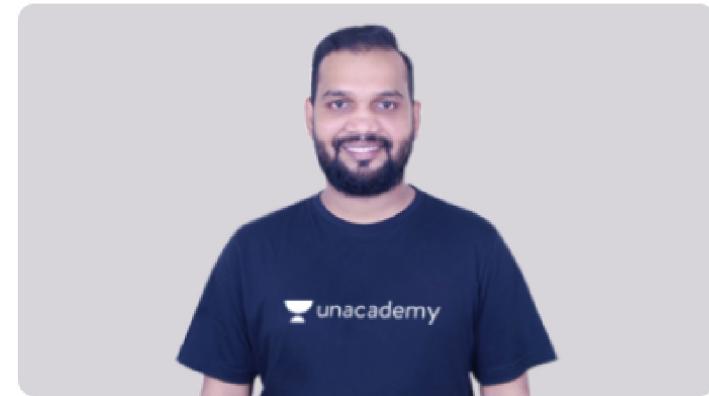
24 Jan, 1:00 PM

HINDI GENERAL APTITUDE

Complete Quantitative Aptitude Revision in 3 hr (All Branch)

Starts on Jan 24, 2021 - 1:00 PM

In this class, I am going to take Complete revision of Quantitative Aptitude in just 3 hours. This is useful for all branches. I will also cover the question asked in the various AE/JE Exam like DMRC, NMRC, LMRC, DFCCIL, UPPCL, etc. So, you will understand t...

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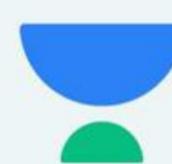
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Educator highlights

- Worked at GATE ACADEMY
- Cracked GATE Exam Multiple time
- Lives in Durg, Chhattisgarh, India
- Unacademy Educator since 29th September, 2020

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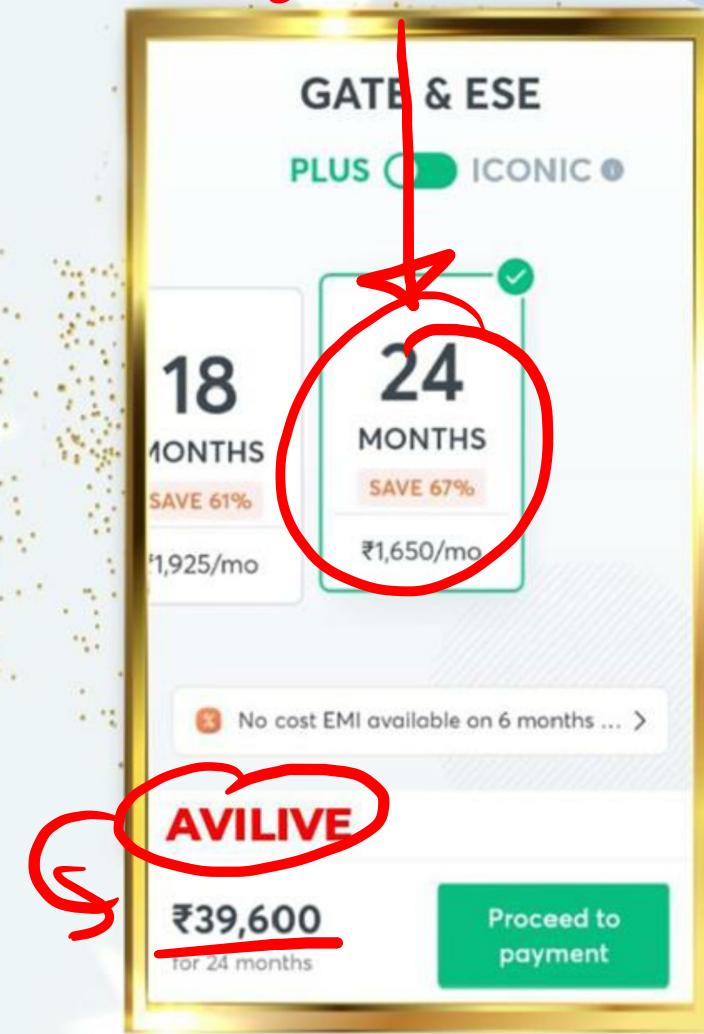
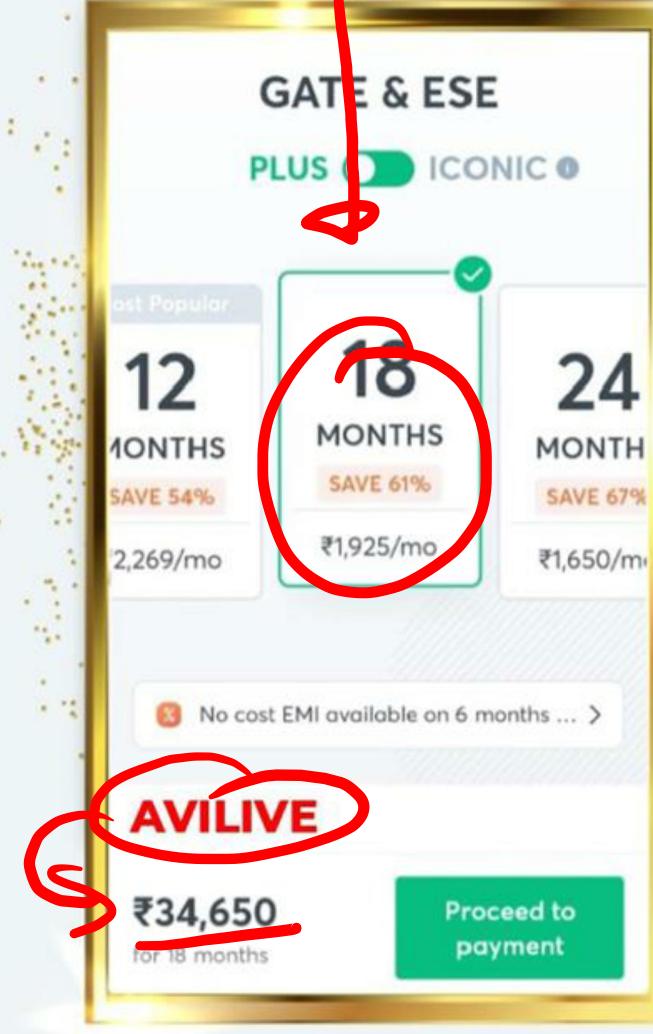
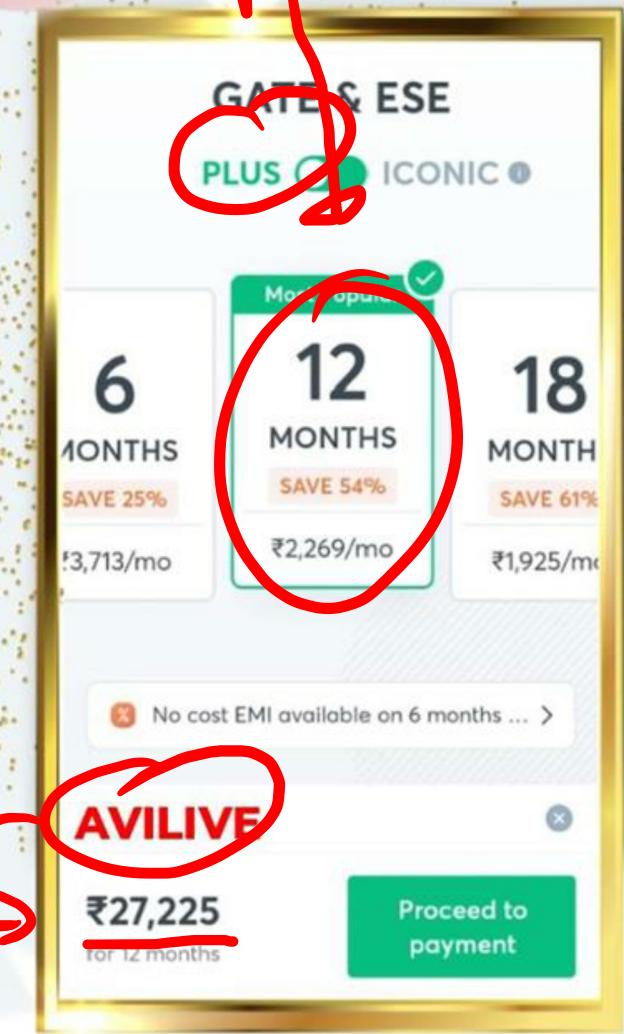
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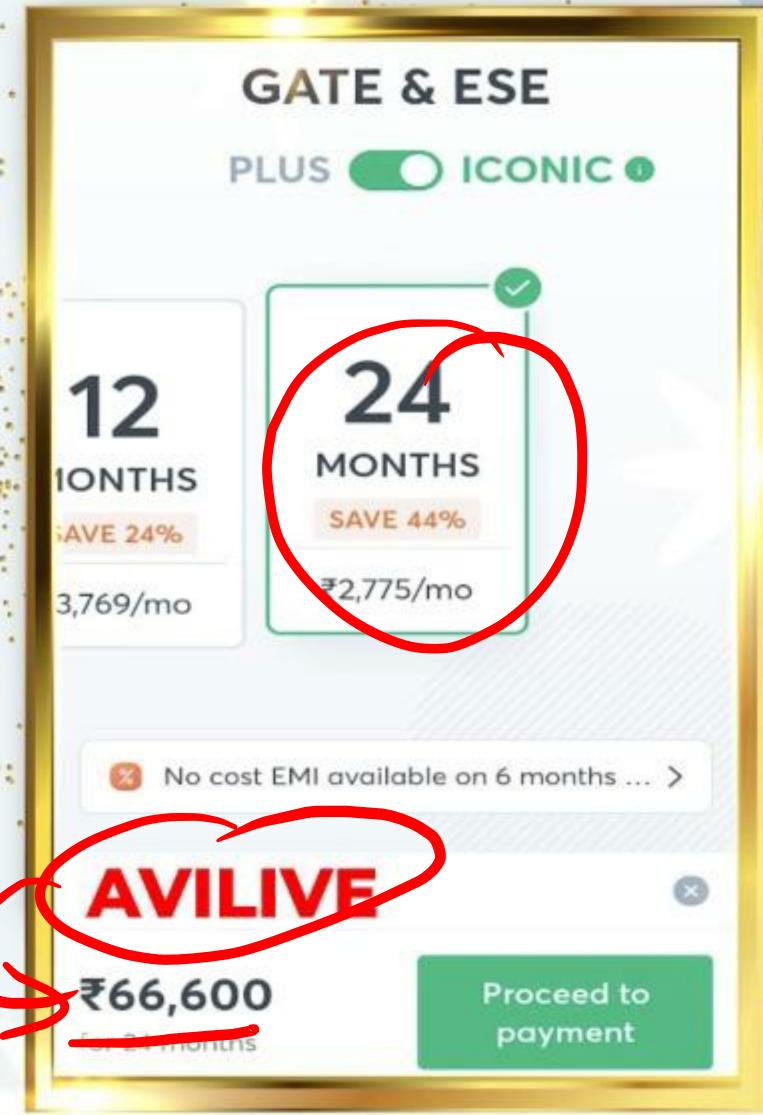
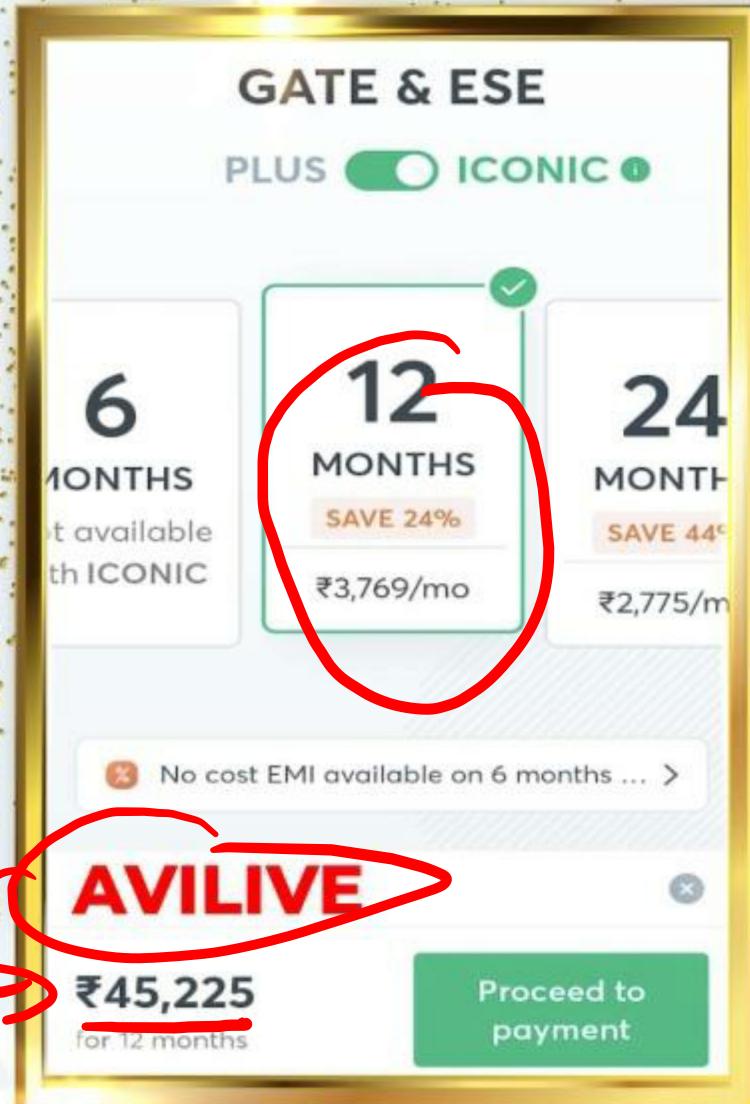
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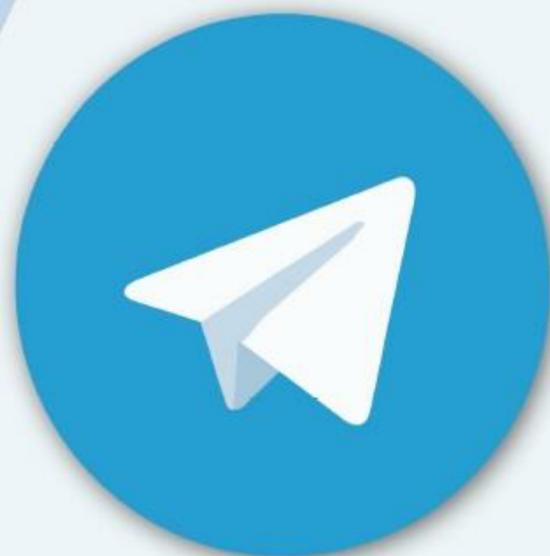


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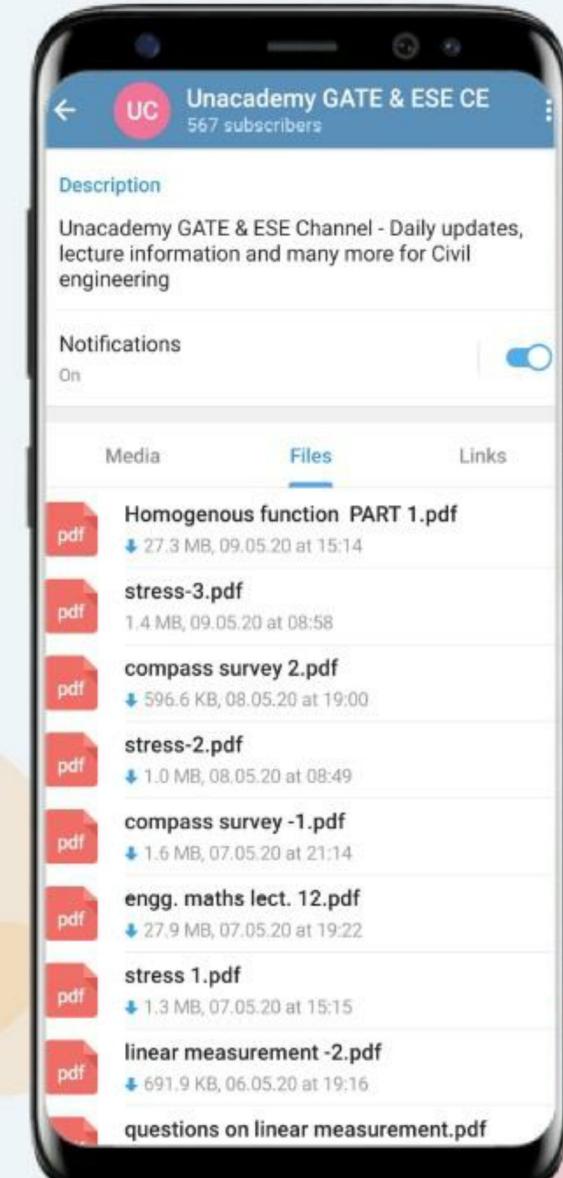


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