CLAT Community

daily QT

SECTIONAL TEST

126 DAYS TO GO FOR **CLAT 2027**

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OUR RANKERS

1 in every 4 of CLAT Community's students are now placed in Top 5 NLUs.

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SUHIT KENDURKAR

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RIYA CHAUHAN

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PRANAV. S

AND MANY MORE.

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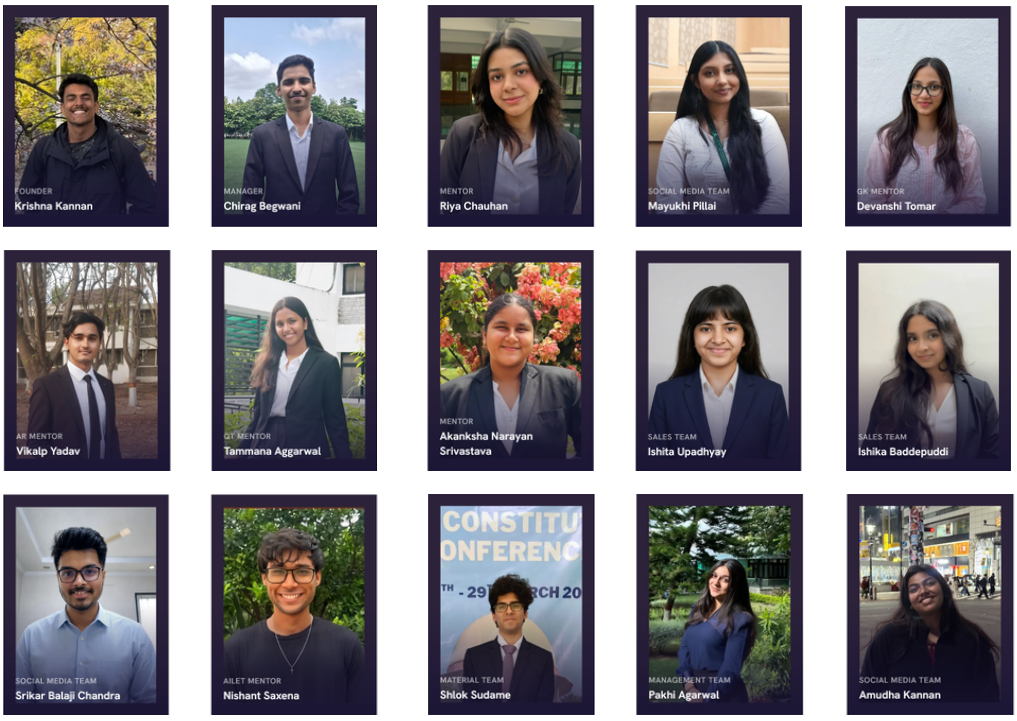
OUR COURSES

OUR MENTORS



MENTORS' NOTE

Good morning everyone,

If you're reading this, you're already doing something that thousands of CLAT aspirants never do—you've shown up today. That might sound like a small thing, but over the next few months you'll realise that success in CLAT is rarely decided by one brilliant mock or one 12-hour study session. It's decided by the hundreds of ordinary days where you choose to sit down and study even when you don't feel like it.

The entire CLAT Community team is rooting for you. Whenever you're stuck, ask doubts, discuss questions, and make use of the people around you. You don't have to prepare alone. We hope today's material helps you take one more step towards your dream.

Now stop reading this note and get to work. Your future self will thank you for the effort you put in today.

All the best.

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QUANTITATIVE APTITUDE

Passage I

Zenith Wealth Advisors helps clients plan long-term savings goals such as retirement funds, children's education plans, and fixed deposits, all of which grow through compound interest at rates agreed upon when the plan is opened. Because compounding can occur annually or half-yearly depending on the product, advisors routinely project how a client's savings will grow over several years, and compare the outcomes of different compounding frequencies for the same nominal rate. Some clients top up an existing plan partway through its term, changing the base amount on which interest continues to compound, while others withdraw early, affecting the plan's final maturity value. Study the following details about this month's savings plans, then answer the questions below.

1. Find the compound interest on ₹30,000 for 2 years at 12% per annum, compounded annually.

(A) ₹7,200

(B) ₹7,432

(C) ₹7,632

(D) ₹7,832

2. Find the amount on ₹25,000 for 1 year at 16% per annum, compounded half-yearly.

(A) ₹28,800

(B) ₹29,000

(C) ₹29,160

(D) ₹29,400

3. Find the difference between the compound interest and the simple interest on ₹40,000 for 2 years at 10% per annum.

(A) ₹300

(B) ₹350

(C) ₹400

(D) ₹450

4. A sum invested at 8% per annum, compounded annually, amounts to ₹34,992 after 2 years. Find the sum invested.

(A) ₹28,000

(B) ₹29,000

(C) ₹30,000

(D) ₹31,000

5. A client invests ₹20,000 in a plan at 10% per annum compound interest, compounded annually. At the end of the first year, she adds another ₹8,000 to the plan, after which the combined balance continues to earn interest for the second year. Find the total amount in the plan at the end of the second year.

(A) ₹32,000

(B) ₹32,500

(C) ₹33,000

(D) ₹33,500

6. A sum of ₹15,000 amounts to ₹18,150 in 2 years at compound interest, compounded annually. Find the rate of interest per annum.

(A) 8%

(B) 9%

(C) 10%

(D) 12%

Passage II

Delta Cargo Barge Service transports goods along a major river between several ports, with barges frequently travelling upstream to inland ports and downstream to coastal terminals. Because the river's current varies by season, barge speeds differ significantly depending on the direction of travel, and the company's schedulers must calculate travel times and speeds carefully to plan reliable delivery windows. Some routes require a barge to travel upstream for one leg of a journey and downstream for another, or to make a round trip between two ports, and dispatchers routinely determine a barge's speed in still water or the current's speed

from the recorded travel times. Study the following details about this week's barge schedules, then answer the questions below.

7. A barge travels 45 km downstream in 3 hours and returns the same distance upstream in 5 hours. Find the speed of the barge in still water and the speed of the current respectively.

(A) 12 km/h, 3 km/h

(B) 13 km/h, 2 km/h

(C) 11 km/h, 4 km/h

(D) 10 km/h, 5 km/h

8. A barge's speed in still water is 18 km/h, and the river current flows at 4 km/h. Find the time taken by the barge to cover 84 km upstream.

(A) 5 hours

(B) 5.5 hours

(C) 6 hours

(D) 6.5 hours

9. A barge covers a certain distance downstream in 4 hours at a speed of 22 km/h. Find the distance covered.

(A) 80 km

(B) 84 km

(C) 88 km

(D) 92 km

10. A barge's speed in still water is 20 km/h and the current speed is 5 km/h. Find the total time taken by the barge to travel 75 km downstream and then return the same distance upstream.

(A) 7 hours

(B) 7.5 hours

(C) 8 hours

(D) 8.5 hours

11. A barge travels 60 km downstream and 60 km upstream, taking a total of 9 hours. If the speed of the current is 5 km/h, find the speed of the barge in still water.

(A) 12 km/h

(B) 15 km/h

(C) 18 km/h

(D) 20 km/h

12. Two barges start simultaneously from two ports 150 km apart on a river and move towards each other. Barge A travels downstream (current-aided) at 25 km/h, and Barge B travels upstream (current-opposed) at 15 km/h. Find the time after which they will meet.

(A) 3 hours

(B) 3.5 hours

(C) 3.75 hours

(D) 4 hours

ANSWER KEY

Q1.

Amount = 30,000 × $(1.12)^2$ = 30,000 × 1.2544 = ₹37,632.

Compound interest = ₹37,632 − ₹30,000 = ₹7,632.

Answer → (C) ₹7,632

Q2.

For half-yearly compounding at 16% p.a., the rate per half-year = 8%, and the number of periods in 1 year = 2.

Amount = 25,000 × $(1.08)^2$ = 25,000 × 1.1664 = ₹29,160.

Answer → (C) ₹29,160

Q3.

Simple interest = (40,000 × 10 × 2)/100 = ₹8,000.

Compound interest = 40,000 × [$(1.10)^2$ − 1] = 40,000 × 0.21 = ₹8,400.

Difference = ₹8,400 − ₹8,000 = ₹400.

Answer → (C) ₹400

Q4.

Let the sum invested be P. Then P × $(1.08)^2$ = ₹34,992.

P × 1.1664 = 34,992, so P = 34,992/1.1664 = ₹30,000.

Answer → (C) ₹30,000

Q5.

Amount at the end of year 1 = 20,000 × 1.10 = ₹22,000.

After adding ₹8,000, the new balance = ₹22,000 + ₹8,000 = ₹30,000.

Amount at the end of year 2 = 30,000 × 1.10 = ₹33,000.

Answer → (C) ₹33,000

Q6.

Let the rate be r (as a decimal). Then 15,000 × $(1+r)^2$ = 18,150.

$(1+r)^2$ = 18,150/15,000 = 1.21, so (1+r) = $\sqrt{1.21}$ = 1.10.

This gives r = 0.10, i.e., 10% per annum.

Answer → (C) 10%

Q7.

Downstream speed = 45/3 = 15 km/h. Upstream speed = 45/5 = 9 km/h.

Speed of barge in still water = (15+9)/2 = 12 km/h.

Speed of current = (15-9)/2 = 3 km/h.

Answer → (A) 12 km/h, 3 km/h

Q8.

Upstream speed = still-water speed − current speed = 18 − 4 = 14 km/h.

Time = distance/speed = 84/14 = 6 hours.

Answer → (C) 6 hours

Q9.

Distance = speed × time = 22 × 4 = 88 km.

Answer → (C) 88 km

Q10.

Downstream speed = 20+5 = 25 km/h. Upstream speed = 20-5 = 15 km/h.

Time downstream = 75/25 = 3 hours. Time upstream = 75/15 = 5 hours.

Total time = 3+5 = 8 hours.

Answer → (C) 8 hours

Q11.

Let the barge's speed in still water be b km/h. Downstream speed = b+5, upstream speed = b−5.

60/(b+5) + 60/(b−5) = 9.

This gives 60(b−5) + 60(b+5) = 9(b²−25), i.e., 120b = 9b² − 225, so 9b² − 120b − 225 = 0, which simplifies to 3b² − 40b − 75 = 0.

Solving this quadratic: b = (40 + 50)/6 = 15 (taking the positive root).

Check: downstream speed = 20 km/h (time = 3 h), upstream speed = 10 km/h (time = 6 h); total = 9 h. ✓

Answer → (B) 15 km/h

Q12.

Since the barges move towards each other, relative speed = 25+15 = 40 km/h.

Time to meet = total distance/relative speed = 150/40 = 3.75 hours.

Answer → (C) 3.75 hours

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