CLAT Community

daily QT

SECTIONAL TEST

21

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.



ALL INDIA RANK **15**

SAHER GOLE



ALL INDIA RANK **17**

PARTHIVA SUSHANTH



ALL INDIA RANK **61**

MIHIKA AGGARWAL



ALL INDIA RANK **79**

SUHIT KENDURKAR



ALL INDIA RANK **86**

RIYA CHAUHAN



ALL INDIA RANK **100**

SHEIKH EHSAAN KHALEELULLAH



ALL INDIA RANK **104**

HRISHIT PODDAR



ALL INDIA RANK **137**

ROHAN YADAV



ALL INDIA RANK **146**

TEJAS ROY



ALL INDIA RANK **147**

ANIRUDDH BAJAJ



ALL INDIA RANK **189**

KABIR WADHWANI



ALL INDIA RANK **263**

CANCHI SISTLA AKSHARA



ALL INDIA RANK **319**

SHIVAM TRIPATHI



ALL INDIA RANK **413**

HARDIK GAUTAM



ALL INDIA RANK **NLSIU**

MANYA BHASKAR



ALL INDIA RANK **NLSIU**

NAMASHRITA GOPINATH



ALL INDIA RANK **NLSIU**

RONIL DHASAL



ALL INDIA RANK **NALSAR**

VEDA RAO



ALL INDIA RANK **NLSIU**

SAMANDAR SINGH



ALL INDIA RANK **NALSAR**

GANJI HAINDAVI



ALL INDIA RANK **NALSAR**

SAHISHNA



ALL INDIA RANK **NLSIU**

PRANAV. S

AND MANY MORE.

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OUR COURSES

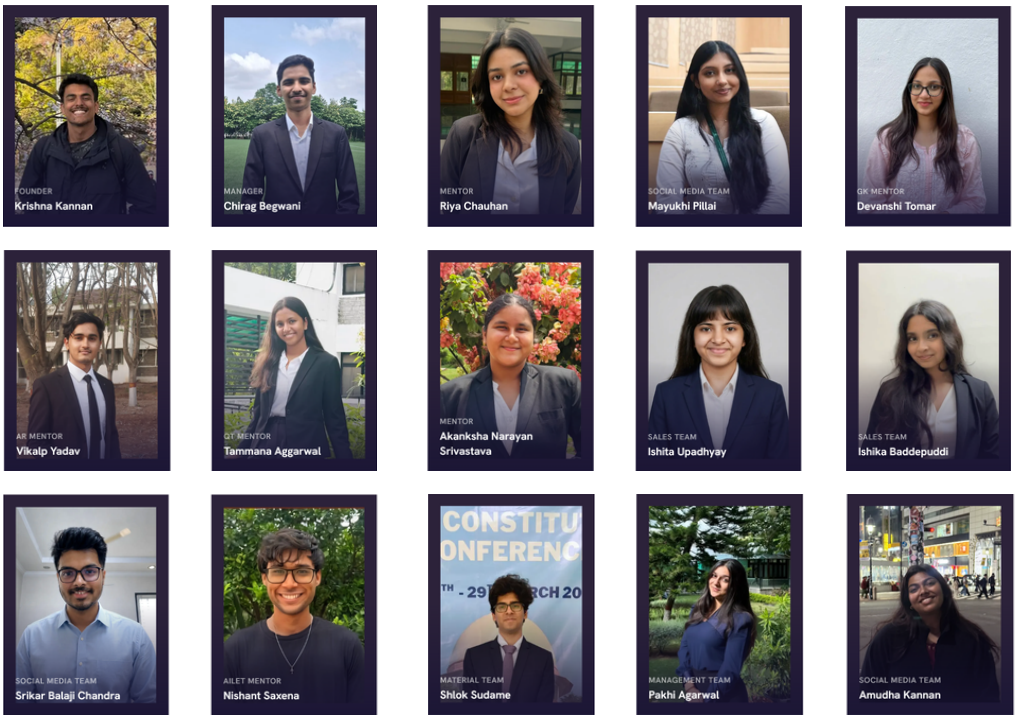








OUR MENTORS



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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DAILY QT

PASSAGE 1 — BEACON HARBOUR: PERIODIC SIGNALS & COINCIDENCE COUNTS

Beacon Harbour maintains three coastal lights that flash on a fixed schedule. The first light flashes every 12 seconds, the second every 18 seconds, and the third every 30 seconds. All three lights were switched on together at time zero, and the harbour master records how often two or all three of them flash at the same instant, since such moments are logged as synchronised signals for the shipping authority.

Two flashes coincide exactly when the time elapsed is a common multiple of the two periods. The times at which all three lights flash together are the common multiples of all three periods, and the first such time after the start is the least common multiple of 12, 18 and 30. The harbour master counts these synchronised signals over a fixed window, and the count depends on whether the starting moment and the final moment of the window are included.

The authority also asks for the spacing between coincidences of particular pairs of lights, and for the number of flashes of the third light that do not coincide with either of the first two. Unless stated otherwise, the window considered is one hour, the time is measured in seconds, and a flash is treated as an instant with no duration.

1. The time, in seconds, between consecutive instants at which all three lights flash together is:

(A) 90

(B) 180

(C) 360

(D) 120

2. The number of instants at which all three lights flash together, strictly after the start and strictly before one hour, is:

(A) 20

(B) 18

(C) 19

(D) 21

3. The number of instants, after the start and up to and including one hour, at which the first two lights flash together is:

(A) 100

(B) 99

(C) 101

(D) 98

4. The first instant after 1000 seconds at which all three lights flash together is at:

(A) 1020 seconds

(B) 1080 seconds

(C) 1100 seconds

(D) 1200 seconds

5. Strictly between the start and one hour, the number of flashes of the third light that coincide with neither of the first two lights is:

(A) 40

(B) 79

(C) 119

(D) 60

6. The spacing, in seconds, between consecutive instants at which the first two lights flash together is:

(A) 24

(B) 36

(C) 48

(D) 72

PASSAGE 2 — RINGWELL SURVEYS: ANNULI, INSCRIBED SQUARES & CHORDS

Ringwell Surveys studies circular and square regions for the design of park paths and fountains. A typical plan shows a large circular lawn with an inner circular pond at its centre, so that the region between them forms a ring. Planners need the area of the ring, the proportion of the outer circle that it occupies, and the area of the regions that remain when a square is fitted into the lawn.

The firm uses two standard facts. The first is that a square inscribed in a circle has its diagonal equal to the diameter of that circle, so its area is half the square of the diameter. The second is that a chord of an outer circle which just touches an inner concentric circle is perpendicular to the radius at the point of contact, so half its length follows from the Pythagorean relation between the two radii. These facts allow the planners to compute the required areas without measuring the lawn directly.

Planners report all areas in square metres and leave results in terms of π where the design calls for exact values. Unless stated otherwise, the circles are concentric, the square is centred on the same point, and the lawn has no other features.

7. The area of the ring between an outer circle of radius 10 m and a concentric inner circle of radius 6 m, in square metres, is:

(A) 36π

(B) 64π

(C) 100π

(D) 48π

8. The ratio of the area of the ring in Question 7 to the area of the outer circle is:

(A) 16/25

(B) 9/25

(C) 4/5

(D) 9/16

9. A square of side 12 m is centred on the inner circle of radius 6 m. The area of the square that lies outside the inner circle, in square metres, is closest to:

(A) 25.13

(B) 36.00

(C) 30.90

(D) 40.00

10. The length, in metres, of the chord of the outer circle of radius 10 m that just touches the inner circle of radius 6 m is:

(A) 14

(B) 16

(C) 12

(D) 18

11. The area, in square metres, of a square inscribed in the outer circle of radius 10 m is:

(A) 180

(B) 200

(C) 220

(D) 160

12. The area, in square metres, of the region inside the outer circle but outside the inscribed square of Question 11 is:

(A) 100

(B) 120

(C) 80

(D) $100\pi - 200$

ANSWER KEY

PASSAGE 1 — BEACON HARBOUR (PERIODIC SIGNALS)

Q1: (B) 180 — LCM of 12, 18 and 30 is 180 seconds.

Q2: (C) 19 — Multiples of 180 in (0, 3600) are 180, 360, ..., 3420, which is 19 values.

Q3: (A) 100 — Multiples of 36 (LCM of 12 and 18) in (0, 3600] are 36, 72, ..., 3600, which is 100 values.

Q4: (B) 1080 seconds — $1080 = 6 \times 180$ is the first multiple of 180 after 1000.

Q5: (A) 40 — Multiples of 30 in (0, 3600) number 119. Of these, 79 are multiples of 12 or 18 (inclusion–exclusion: 59 + 39 − 19). That leaves 119 − 79 = 40.

Q6: (B) 36 — The LCM of 12 and 18 is 36 seconds.

PASSAGE 2 — RINGWELL SURVEYS (ANNULI & INSCRIBED FIGURES)

Q7: (B) 64π — Area = $\pi(10^2 - 6^2) = 64\pi$.

Q8: (A) 16/25 — $(64\pi)/(100\pi) = 16/25$.

Q9: (C) 30.90 — The square has area 144 and the inner circle has area $36\pi \approx 113.10$. Since the inner circle lies within the square, the area outside it is $144 - 36\pi \approx 30.90$.

Q10: (B) 16 — Half-chord = $\sqrt{(10^2 - 6^2)} = 8$, so the chord is 16.

Q11: (B) 200 — The inscribed square has diagonal 20, so area = $20^2/2 = 200$.

Q12: (D) $100\pi - 200$ — Outer circle area 100π minus square area 200, which is about 114.16.



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