Memory – Based Questions – DILR – CAT 2025 Slot 2

Dilr set 1

% change in pi from year 2016 to 2020 on x axis and %change in pi from year 2020 to 2024 on y axis and 6cities a b c d e f were plotted on the graph and we were asked to calculate the pi of the cities in respective years

Some clues were also given about the cities

Dilr set 2

P1 - T = how Nr + sci. lines to achieve complex _____
landscapes are not static, not unchanged, changed _____

if,tone,sweepif, tone, sweepif,tone,sweep except ⟶ opp.

none,opp.none, opp.none,opp. ≈ all sweep ⟶ 1 doesn't

P2 There are six spherical balls B1, B2, … B6
and four circular hoops H1, H2, H3, H4

Each ball:

1. B1 & B6 each made a ping on H2, but B5 did not.
2. B4 made a ping on H3, but B1 did not.
3. All balls, except B3, made pings on H1.
4. None of the balls, except B2, made pings on H4.

Q1. Total number of pings made by B1, B2 & B3? □

Q2. NOT true?

a) B1 < B5 < B2 < B3
b) B2 < B1 < B5
c) B4 < B1
d) B1 < B6 < B3

Q3. True?

a) H1 < H4 < H3 < H2
b) H1 < H3 < H4 < H2
c) H2 < H4 < H3 < H1
d) H2 < H3 < H4 < H1

Q4. Total pings

a) 12 / 13 / 14
b) 12 & 13
c) > 9
d) 13 / 1

Bottom note:

8 Q → A10 th, 3 IIt

Dilr set 3 - Group 1

Arman – 5 papers
Borajen – 8
Chintan – 12
Devore – 10

Group 2

1 auth – 10
2 auth – 4
3 auth – 3
4 auth – 2

Conditions

1. Each author wrote at least 1 of each type.
2. The 4 authors wrote different numbers of single-auth papers.
3. Both *Chintan* & *Devore* wrote more 3-auth papers than ____ (text unclear, but seems like "than ___").
4. Number of single-auth + 2-auth written by B were ≤ ___ (cutoff unclear).

Q1. Total number of 2-auth + 3-auth papers written by B? □

Q2. What is true?

a. C wrote exactly 3 two-auth
b. C wrote more 1-auth than D

Q3. What is true?

a. A wrote 3-auth only with C + D
b. B wrote 3-auth only with C + D

Q4. If D wrote more than 2-auth papers, then how many 2-auth papers did Chintan write?

Dilr set 4 - Then one more set was 5 musicians and 3 music gurus. This was very bad set

Dilr set 5 - One set of Sustainability Index .

<u>Memory – Based Questions – QA – CAT 2025 Slot 2</u>

1) Loan of Rs. 1000 is repaid in 2 annual instalments of Rs. 530 and 594. Compounded yearly, find r%.
(Ans. 8%)

2) No. of Divisors of 21.35.72.532^1 . 3^5 . 7^2 . 5^321.35.72.53 that are of the form (3r+1).
(Ans. 24)

3) 13log2(x)+log512(y3)+12log8(z2)=4\frac{1}{3}\log_2 (x) + \log_{512}(y^3) + \frac{1}{2}\log_8 (z^2) = 431log2(x)+log512(y3)+21log8(z2)=4

This gives: (xyz)23=16(xyz)^{\frac{2}{3}} = 16(xyz)32=16

find Min. (x + y + z) = ?
(Ans. 48)

4) f(x)=x2x−1f(x) = \frac{x}{2x-1}f(x)=2x−1x, g(x)=xx−1g(x) = \frac{x}{x-1}g(x)=x−1x

find Domain of: f[g(x)]+g[f(x)]f[g(x)] + g[f(x)]f[g(x)]+g[f(x)]

(Ans. x≠12,x≠1,(x+2)x \neq \frac{1}{2}, x \neq 1, (x+2)x=21,x=1,(x+2))

5) If m, n are integers: (m + n)(2m + n) = 27.

Max. value of: (m − n)

6) If, a + b + c + d = 46, a, b, c, d are whole nos.

find Min. (a−b)2+(a−c)2+(a−d)2=(a-b)^2 + (a-c)^2 + (a-d)^2 =(a−b)2+(a−c)2+(a−d)2=
(Ans. 2)

7) C.P = 1650, profit % = 20%, & Discount % = x%.

also if Profit = 110, Discount = 2x%.

If Discount is P%, & profit is also P%, find P.
(Ans. 14)

8) Ratio of Expenditure = 3 : 7

Ratio of Income = (something scribbled)

Ratio of Income = 4 : 5, find Ratio of Income.
(M: F = family?)

Q. x2−|x+4|−x>0x^2 - |x+4| - x > 0x2−|x+4|−x>0

Options:
a) (−9,−3)∪(3,∞)(-9, -3) \cup (3, \infty)(−9,−3)∪(3,∞)
b) (−∞,−3)∪(3,∞)(- \infty, -3) \cup (3, \infty)(−∞,−3)∪(3,∞)
c) (−9,−3)∪(9,∞)(-9, -3) \cup (9, \infty)(−9,−3)∪(9,∞)

Q. x4+7x2−3x^4 + 7x^2 - 3x4+7x2−3
−4; 3x2+12x−2+27=0-4; \ 3x^2 + 12x - 2 + 27 = 0−4; 3x2+12x−2+27=0

Product of all possible roots

Options:
a) 20
b) 24
c) 30
d) 36

Q f(x)=x2x−1f(x) = \dfrac{x}{2x - 1}f(x)=2x−1x
g(x)=xx−1g(x) = \dfrac{x}{x - 1}g(x)=x−1x

Domain of definition of
h(x)=f(g(x))+g(h(x))h(x) = f(g(x)) + g(h(x))h(x)=f(g(x))+g(h(x))
is all real xxx except:

Options:
a) −1,1,12-1, 1, \tfrac{1}{2}−1,1,21
b) −12,1,12-\tfrac{1}{2}, 1, \tfrac{1}{2}−21,1,21

Q 3x2−5x+p=03x^2 - 5x + p = 03x2−5x+p=0
2x2−2x+q=02x^2 - 2x + q = 02x2−2x+q=0

have one common root.
Find other roots.

Options:
a) 83−p+3q2\frac{8}{3} - p + \frac{3q}{2}38−p+23q
b) 83+p+3q2\frac{8}{3} + p + \frac{3q}{2}38+p+23q
c) 13−p2+9q2\frac{1}{3} - \frac{p}{2} + \frac{9q}{2}31−2p+29q