CAT 2024 Expected Paper

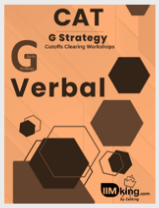
90% paper pattern will be based on this!

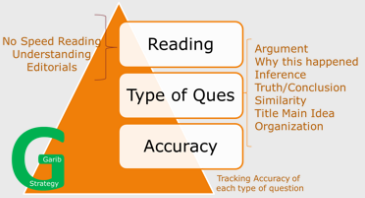
"4 Days Score Improvement Plan"

Babaji Ek IIM Call! Timetable!

Verbal

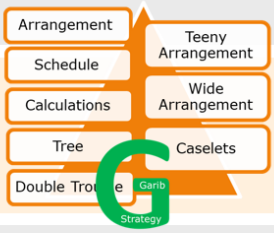
Day	Question	CAT 2021	CAT 2022	CAT 2023	Total	Accuracy
Day 1	Argument	13	9	7	29	
	Why this happened	9	5	14	28	
Day 2	Similarity	4	8	5	17	
	Inference	9	11	5	25	
	Truth/Conclusion	4	10	7	20	
Day 3	Title Main Idea	6	2	7	15	
	Organization	3	3	3	9	
	Summary	9	9	6	24	
Day 4	Jumbled	9	9	6	24	
	Completion	-	6	6	12	
	Odd Man Out	6	-	6	12	
	Total	72	72	72	216	



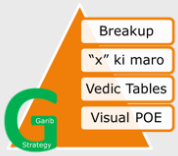


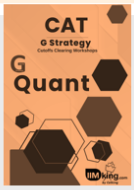
DILR

Day	G Strategy	CAT 2021	CAT 2022	CAT 2023	Total	My
Day 1	Numbers Arrangement	6	4	5	15	
Day 2	Scheduling & Routes	4	2	3	9	
Day 3	Calculations	1	3	1	5	
Day 4	Tree Arrangement		3	1	4	
	Double Trouble	1		2	3	
	Total	12	12	12	36	



Quant





Day	G Strategy in CAT 2023	Slot 1	Slot 2	Slot 3	My
Day 1	Breakup	9	6	7	
Day 2	Vedic Table	2	4	2	
Day 3	Visual POE	3	3	3	
Day 4	X maro	2	2	3	
Total		16	15	15	

Score vs Percentile vs Cutoffs

Marks in CAT Exam

Category	VARC	DILR	QA	Baby	New	Main	ABC
GEM	18	12	10	55	65	76	90
General	18	12	10	50	60	70	76
EWS	18	12	10	33	39	50	65
NC-OBC	14	9	7	33	39	50	65
SC	9	6	4	27	33	39	42
ST	9	6	4	27	33	39	42
PwD	9	6	4	27	33	39	42

Percentile in CAT Exam

Category	QA	DILR	VARC	Baby	New	Main	ABC
GEM	80%	80%	80%	95%	97%	99%	99.7%
General	80%	80%	80%	93%	96%	98%	99%
EWS	80%	80%	80%	80%	85%	92%	97%
NC-OBC	70%	70%	70%	80%	85%	92%	97%
SC	55%	55%	55%	70%	80%	85%	92%
ST	55%	55%	55%	70%	80%	85%	92%
PwD	55%	55%	55%	70%	80%	85%	92%

DILR Section

Ministers holding Portfolios at Parliament can belong to one of four departments – Finance and Accounting (F&A), Marketing and Strategy (M&S), Operations and Quants (O&Q) and Behaviour and Human Resources (B&H). The numbers of MPs in F&A, M&S, O&Q and B&H departments are 9, 7, 5 and 3 respectively.

Prof. Pakrasi, Prof. Qureshi, Prof. Ramaswamy and Prof. Samuel are four members of the Parliament who were candidates for the post of the Dean of the Parliament. Only one of the candidates was from O&Q.

Every faculty member, including the four candidates, voted for the post. In each department, all the members who were not candidates voted for the same candidate. The rules for the election are listed below.

1. There cannot be more than two candidates from a single department.
2. A candidate cannot vote for himself/herself.
3. Faculty members cannot vote for a candidate from their own department.

After the election, it was observed that Prof. Pakrasi received 3 votes, Prof. Qureshi received 14 votes, Prof. Ramaswamy received 6 votes and Prof. Samuel received 1 vote. Prof. Pakrasi voted for Prof. Ramaswamy, Prof. Qureshi for Prof. Samuel, Prof. Ramaswamy for Prof. Qureshi and Prof. Samuel for Prof. Pakrasi.

1.Which two candidates can belong to the same department?
1) Prof. Pakrasi and Prof. Samuel
2) Prof. Pakrasi and Prof. Qureshi
3) Prof. Qureshi and Prof. Ramaswamy
4) Prof. Ramaswamy and Prof. Samuel

2.Which of the following can be the number of votes that Prof. Qureshi received from a single department?
1) 7 2) 9 3) 8 4) 6

3.If Prof. Samuel belongs to B&H, which of the following statements is/are true?
Statement A: Prof. Pakrasi belongs to M&S.
Statement B: Prof. Ramaswamy belongs to O&Q.
1) Neither statement A nor statement B
2) Both statements A and B
3) Only statement A
4) Only statement B

4.What best can be concluded about the candidate from O & Q?
1) It was either Prof. Pakrasi or Prof. Qureshi.
2) It was either Prof. Ramaswamy or Prof. Samuel.
3) It was Prof. Samuel.
4) It was Prof. Ramaswamy.

5.Which of the following statements is/are true?
Statement A: Non-candidates from M&S voted for Prof. Qureshi.
Statement B: Non-candidates from F&A voted for Prof. Qureshi.
1) Only statement A
2) Neither statement A nor statement B
3) Both statements A and B
4) Only statement B

A speciality supermarket sells 320 products. Each of these products was either a cosmetic product or a nutrition product. Each of these products was also either a foreign product or a domestic product. Each of these products had at least one of the two approvals – FDA or EU.
The following facts are also known:

1. There were equal numbers of domestic and foreign products.
2. Half of the domestic products were FDA approved cosmetic products.
3. None of the foreign products had both the approvals, while 60 domestic products had both the approvals.
4. There were 140 nutrition products, half of them were foreign products.
5. There were 200 FDA approved products. 70 of them were foreign products and 120 of them were cosmetic products.

6.How many foreign products were FDA approved cosmetic products? _____

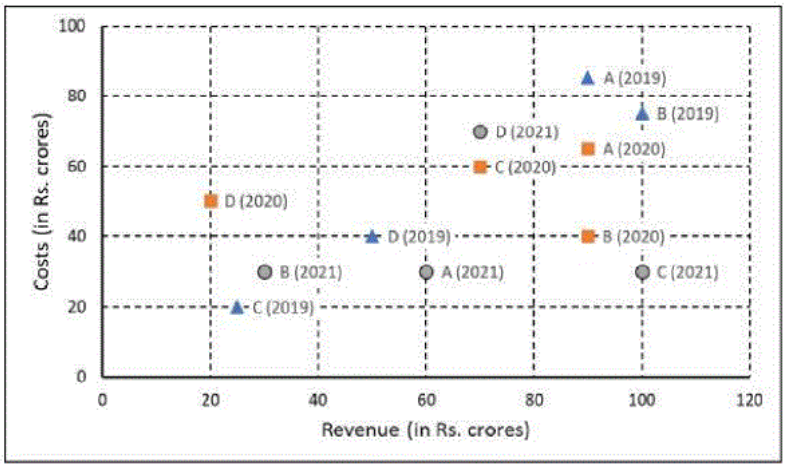
7.How many cosmetic products did not have FDA approval? _____

8.Which among the following options best represents the number of domestic cosmetic products that had both the approvals?
1) At least 20 and at most 50
2) At least 10 and at most 80
3) At least 20 and at most 70
4) At least 10 and at most 60

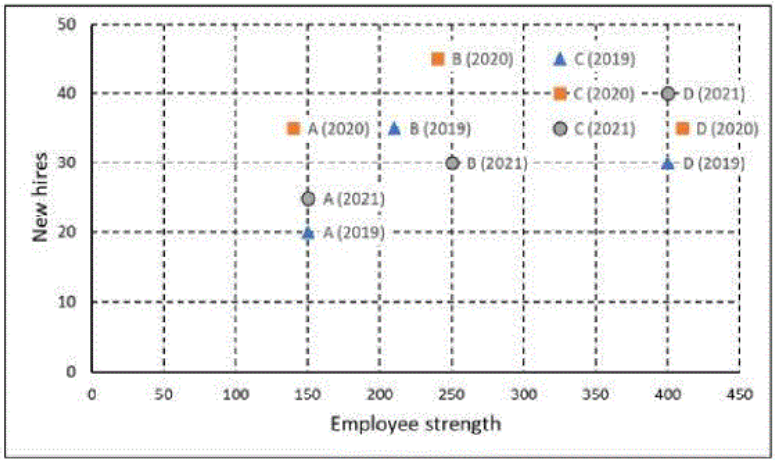
9.If 70 cosmetic products did not have EU approval, then how many nutrition products had both the approvals?
1) 20 2) 30 3) 50 4) 10

10. If 50 nutrition products did not have EU approval, then how many domestic cosmetic products did not have EU approval? _____

The two plots below show data for four companies code-named A, B, C, and D over three years - 2019, 2020, and 2021. The first plot shows the revenues and costs incurred by the companies during these years. For example, in 2021, company C earned Rs.100 crores in revenue and spent Rs.30 crores. The profit of a company is defined as its revenue minus its costs.



The second plot shows the number of employees employed by the company (employee strength) at the start of each of these three years, as well as the number of new employees hired each year (new hires). For example, Company B had 250 employees at the start of 2021, and 30 new employees joined the company during the year.



11. Considering all three years, which company had the highest annual profit?
1) Company A 2) Company B 3) Company C 4) Company D

12. Which of the four companies experienced the highest annual loss in any of the years?
1) Company A 2) Company C 3) Company B 4) Company D

13. The ratio of a company's annual profit to its annual costs is a measure of its performance. Which of the four companies had the lowest value of this ratio in 2019?
1) Company D 2) Company C 3) Company B 4) Company A

14. The total number of employees lost in 2019 and 2020 was the least for:
1) Company D 2) Company A 3) Company C 4) Company B

15. Profit per employee is the ratio of a company's profit to its employee strength. For this purpose, the employee strength in a year is the average of the employee strength at the beginning of that year and the beginning of the next year. In 2020, which of the four companies had the highest profit per employee?
1) Company D 2) Company B 3) Company A 4) Company C

Amudha, Bharatan, Chandran, Dhinesh, Ezhil, Fani and Gowtham are seven people in a town. Any pair of them could either be strangers, acquaintances, or friends. All relationships are mutual. For example, if Amudha is a friend of Bharatan, then Bharatan is also a friend of Amudha. Similarly, if Amudha is a stranger to Bharatan, then Bharatan is also a stranger to Amudha.

Partial information about the number of friends, acquaintances, and strangers of each of these people among them is given in the table below.

	No. of Friends	No. of Acquaintances	No. of Strangers
Amudha		1	4
Bharatan			
Chandran		1	
Dhinesh			2
Ezhil			1
Fani	1		
Gowtham		3	2

The following additional facts are also known.
1. Amudha, Bharatan, and Chandran are mutual strangers.
2. Amudha, Dhinesh, and Fani are Ezil's friends.
3. Chandran and Gowtham are friends.
4. Every friend of Amudha is an acquaintance of Bharatan, and every acquaintance of Bharatan is a friend of Amudha.
5. Every friend of Bharatan is an acquaintance of Amudha, and every acquaintance of Amudha is a friend of Bharatan.

16. Who are Gowtham's acquaintances?
1) Dhinesh, Ezhil and Fani
2) Amudha, Dhinesh and Fani
3) Amudha, Bharatan and Fani
4) Bharatan, Dhinesh and Ezhil

17. Which of these pairs share the same type of relationship?
1) (Chandran, Ezhil) and (Dhinesh, Gowtham)
2) (Bharatan, Chandran) and (Dhinesh, Ezhil)
3) (Bharatan, Ezhil) and (Fani, Gowtham)
4) (Amudha, Gowtham) and (Ezhil, Fani)

18. Who is an acquaintance of Amudha? 1) Ezhil 2) Gowtham 3) Dhinesh 4) Fani

19. Who is an acquaintance of Chandran? 1) Bharatan 2) Dhinesh 3) Ezhil 4) Fani

20. How many friends does Ezhil have? _____ TITA

G Strategy: Double Trouble | Solutions 1 – 5 MEDIUM SET

1.2
2.2
3.2
4.2
5.4

Step 1: Analyzing Voting and Department Conditions

1. Understanding Candidate P's Votes:
   - Candidate P received 3 votes.
   - Candidate S voted for P, giving 2 votes from their department (suggesting S's department could be either B & H or another department where P isn't from).
2. Determining Departments of Candidates:
   - P cannot be from the same department as S.
   - Since there's only 1 candidate from B & H, and S has already given votes to P, it implies P cannot be from B & H.
   - So, P could belong to the department M & S (Marketing & Sales).
3. Votes Distribution for Q and Other Candidates:
   - Q received 14 votes: 9 from F & A (Finance & Accounting) and 4 from O & Q (Operations & Quality). This means Q isn't from F & A or O & Q.
   - Q could be from M & S.
4. Excluding Departments for R and S:
   - Since S voted for P, they can't be in the same department.
   - R voted for Q, so R and Q can't be in the same department.
   - As each department has only one candidate, R can't be from M & S (Q's department).
   - Thus, R can be from F & A, and S from O & Q or B & H.
5. Conclusion from Step 1:
   - P and Q belong to M & S.
   - Q and S could belong to either B & H or O & Q in any order.

Step 2: Organizing Information in Tables

Table 1: Votes by Candidate and Members

This table shows how many votes each candidate received and from which members:

- P received 3 votes (2 from S in department B & H).
- Q received 14 votes (13 from R in F & A and some from O & Q).
- R received 6 votes (2 from department F & A and 5 from M & S).
- S received 1 vote (from Q in O & Q).

Table 2: Departments and Candidate Allocation

This table summarizes the total number of faculties in each department, how many members voted, and which candidate is from each department:

- F & A: Total faculties = 9, with 9 members who voted. Candidate = R.
- M & S: Total faculties = 7, with 5 members who voted. Candidates = P and Q.
- O & Q and B & H: Assigned candidates are S and another candidate from M & S or B & H, respectively, each with specific voting configurations.

This puzzle involves logic deductions and constraints about departmental affiliations and voting patterns to determine candidates' departments and voting dynamics.

Candidate Votes and Departments - Table 1

Candidate	Votes Received	Votes By	Department
P	3	S	B & H (2)
Q	14	R	M & S (5)
R	6	F & A (9) + O & Q (4)	F & A (9)
S	1	Q	O & Q

Department and Faculty Distribution - Table 2

Department	Total Faculties	Members Voted	Candidates

F & A	9	9	R
M & S	7	5	P, Q
O & Q	5	4	S
B & H	3	2	B & H Candidate

G Strategy Tree Arrangement | Solution 6 – 10 HARD Set

6.40
7.1
8.4
9.4
10. 50

There are 320 products divided into two main categories: Cosmetic and Nutrition.

- Cosmetic products: 180
- Nutrition products: 140

Each category of products can be classified as either Foreign or Domestic, with each type potentially approved by FDA, EU, or both FDA & EU.

Breakdown of Information and Statements

1. Foreign and Domestic Distribution:
   - For Cosmetics (180 products):
     - 90 are Foreign.
     - 90 are Domestic.
   - For Nutrition (140 products):
     - 70 are Foreign.
     - 70 are Domestic.
2. Additional Information and Constraints:
   - Statement (4) specifies that half of the Nutrition products are Foreign (70), leaving the other half as Domestic.
   - The Cosmetic products are also split equally between Foreign and Domestic, making 90 each.
3. Equations and Statements Used for Calculation:
   - Statement (3):
     - The sum of products approved by both FDA and EU for each category (denoted by variables xxx and yyy) must equal 60.
     - x+y=60x + y = 60x+y=60.
   - Statement (5):
     - The total number of FDA-approved and EU-approved products, including all intersections, must sum up to 200.
     - p+q+x+s+b+y=200p + q + x + s + b + y = 200p+q+x+s+b+y=200.
   - Statement (2):
     - Half of the Domestic products (both Cosmetic and Nutrition) are FDA-approved.
     - a+x=80a + x = 80a+x=80.
4. Solving the Variables:
   - Using the given statements and equations, we substitute values to solve for each variable.
   - By solving, we find:
     - a=40a = 40a=40, b=50b = 50b=50, p=40p = 40p=40, q=50q = 50q=50, s=30s = 30s=30, t=10t = 10t=10, u=20u = 20u=20, and so forth.
   - Thus, the values for each category are determined.
5. Final Table of Results:

The table summarizes the final values for each cell:

	Cosmetic (180)	Nutrition (140)
FDA	40 (Foreign), 40 (Domestic)	30 (Foreign), b (Domestic)
EU	50 (Foreign), 10 (Domestic)	20 (Foreign), 20 (Domestic)
FDA & EU	0 (Foreign), x (Domestic)	0 (Foreign), y (Domestic)

This structured approach of using given equations to solve for each unknown helps fill in the table accurately, ultimately leading to a full understanding of the distribution of FDA and EU approvals among the Cosmetic and Nutrition products.

DI Graph Based Solution 11 – 15 | Easy SET

Solution
11. 3
12. 4
13. 4
14. 4
15. 2

Detailed solution
Here's the data presented in a table format for clarity:

Year	Company	Cost	Revenue	Employee Count	New Hires
2019	A	85	90	150	20
2019	B	75	100	210	35
2019	C	20	25	325	45
2019	D	40	50	400	30
2020	A	65	90	140	35
2020	B	40	90	240	45
2020	C	60	70	325	40
2020	D	50	50	410	35
2021	A	30	60	150	25
2021	B	30	90	250	30
2021	C	40	100	325	35
2021	D	70	70	400	40

And here's the Profit per Employee Ratio for each company in 2020:

Company	Profit	Employee Strength (Average of 2019 and 2020)	Ratio (Profit / Employee Strength)
A	25	145	25 / 145
B	50	245	50 / 245
C	10	325	10 / 325
D	-	-	Not Applicable

The largest ratio is for Company B.

1. Columns and Rows:
   - The years are organized across columns, with each column containing data for Cost, Revenue, Employee count, and New hires.
   - Each row represents data for a different company (A, B, C, or D).
2. Values:
   - For each year, the table lists:
     - Cost: The operating or production costs of the company.
     - Revenue (Rev): The total income generated by the company.
     - Employee count (Emp): The total number of employees.
     - New hires (New): The number of new employees hired in that year.
3. Purpose:
   - The table helps calculate profit per employee for each company in 2020. Profit per employee is derived by calculating the profit (Revenue - Cost) and dividing it by the average employee strength for that year.

Calculations for 2020
Below the table, there's a section that calculates the profit per employee for each company (A, B, and C) in 2020. Here's how the calculation is performed:

1. Profit Calculation:
   - Profit = Revenue - Cost
2. Average Employee Strength:
   - For employee strength in 2020, the average of the 2019 and 2020 employee counts is used.
3. Profit per Employee Ratio:
   - The ratio is calculated as (Profit) / (Average Employee Strength).

Example of Calculations

For Company A in 2020:

- Profit = Revenue (90) - Cost (65) = 25
- Average Employee Strength = (2019 Employee + 2020 Employee) / 2 = (150 + 140) / 2 = 145
- Ratio = Profit / Employee Strength = 25 / 145

Similarly, calculations are done for companies B and C. Company D is excluded from the 2020 profit calculation because it has no profit (Revenue = Cost).

Conclusion

After comparing ratios, the highest ratio is observed for Company B in 2020, indicating that Company B has the largest profit per employee among the companies listed.

Solution 16 – 20 DILR Number Arrangement HARD SET

	Friends		Acquaintances		Strangers	
Amudha	E		D	1	B C F G	4
Bharatan	D		E		A C F G	
Chandran	G		F	1	A B C E	
Dhinesh	B E		A G		C F	2
Ezhil	A D F		B G		C	1
Fani	E	1	C G		A B D	
Gowtham	C		D E F	3	A B	2

Answers:

16. Dhinesh, Ezhil and Fani
17. (Bharatan, Ezhil) and (Fani, Gowtham)
18. Dhinesh
19. Fani
20. Ezil friends 3