CAT 2025 DILR 30th Nov Slot 2 Question Paper

Time Allowed :120 Minutes	**Maximum Marks :**204	**Total Questions :**68

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The total duration of the test is **120 Minutes**, with **40 minutes** allotted per section.
2. The question paper is divided into **three sections**:
   - **Section 1:** Verbal Ability and Reading Comprehension (VARC) – 24 questions
   - **Section 2:** Data Interpretation and Logical Reasoning (DILR) – 22 questions
   - **Section 3:** Quantitative Aptitude (QA) – 22 questions
3. Each correct answer carries **+3 marks**.
4. For multiple-choice questions (MCQs), **−1 mark** will be deducted for each wrong answer.
5. There is **no negative marking** for Type-in-the-Answer (TITA) questions.

Section 2

Data Interpretation and Logical Reasoning

Comprehension (Questions 1-4):

There are six spherical balls, B1, B2, B3, B4, B5, and B6, and four circular hoops H1, H2, H3, and H4.

Each ball was tested on each hoop once, by attempting to pass the ball through the hoop. If the diameter of a ball is not larger than the diameter of the hoop, the ball passes through the hoop and makes a "ping". Any ball having a diameter larger than that of the hoop gets stuck on that hoop and does not make a ping.

The following additional information is known:
1. B1 and B6 each made a ping on H4, 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 a ping on H2.

1. What was the total number of pings made by B1, B2, and B3?

2. Which of the following statements about the relative sizes of the balls is NOT NECESSARILY true?

(A) B4 < B5 < B3
(B) B2 < B1 < B5
(C) B1 < B5 < B3
(D) B1 < B6 < B3

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3. Which of the following statements about the relative sizes of the hoops is true?

(A) H1 < H4 < H3 < H2
(B) H2 < H3 < H4 < H1
(C) H1 < H3 < H4 < H2
(D) H2 < H4 < H3 < H1

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4. What BEST can be said about the total number of pings from all the tests undertaken?

(A) 13 or 14
(B) At least 9
(C) 12 or 13
(D) 12 or 13 or 14

Comprehension (Questions 5-9):

The two most populous cities and the non-urban region (NUR) of each of three states, Whimshire, Fogglia, and Humbleset, are assigned Pollution Measures (PMs). These nine PMs are all distinct multiples of 10, ranging from 10 to 90. The six cities in increasing order of their PMs are: Blusterburg, Noodleton, Splutterville, Quackford, Mumpypore, Zingaloo.

The Pollution Index (PI) of a state is a weighted average of the PMs of its NUR and cities, with a weight of 50% for the NUR, and 25% each for its two cities.

There is only one pair of an NUR and a city (considering all cities and all NURs) where the PM of the NUR is greater than that of the city. That NUR and the city both belong to Humbleset.

The Pls of all three states are distinct integers, with Humbleset and Fogglia having the highest and the lowest PI respectively.

5. What is the PI of Whimshire?

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6. What is the PI of Fogglia?

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7. What is the PI of Humbleset?

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8. Which pair of cities definitely belong to the same state?

(A) Noodleton, Quackford
(B) Splutterville, Quackford
(C) Mumpypore, Zingaloo
(D) Blusterburg, Mumpypore

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9. For how many of the cities and NURs is it possible to identify their PM and the state they belong to?

Comprehension (Questions 10-13):

The following charts depict details of research papers written by four authors, Arman, Brajen, Chintan, and Devon. The papers were of four types, single-author, two-author, three-author, and four-author, that is, written by one, two, three, or all four of these authors, respectively. No other authors were involved in writing these papers.

The following additional facts are known.
1. Each of the authors wrote at least one of each of the four types of papers.
2. The four authors wrote different numbers of single-author papers.
3. Both Chintan and Devon wrote more three-author papers than Brajen.
4. The number of single-author and two-author papers written by Brajen were the same.

10. What was the total number of two-author and three-author papers written by Brajen?

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11. Which of the following statements is/are NECESSARILY true?
i. Chintan wrote exactly three two-author papers.
ii. Chintan wrote more single-author papers than Devon.

(A) Neither i nor ii

(B) Both i and ii
(C) Only i
(D) Only ii

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12. Which of the following statements is/are NECESSARILY true?
i. Arman wrote three-author papers only with Chintan and Devon.
ii. Brajen wrote three-author papers only with Chintan and Devon.

(A) Only ii
(B) Neither i nor ii
(C) Both i and ii
(D) Only i

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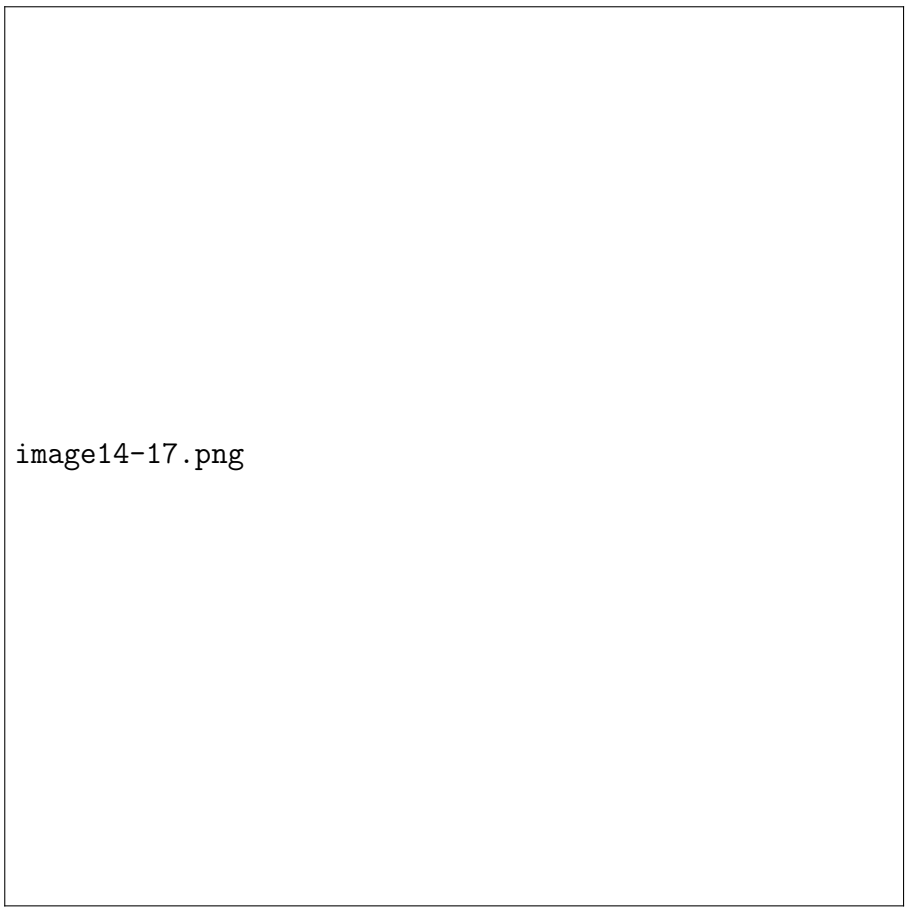
13. If Devon wrote more than one two-author papers, then how many two-author papers did Chintan write?

Comprehension (Questions 14-17):

The Sustainability Index (SI) of a country at a point in time is an integer between 1 and 100. This question is related to SI of six countries - A, B, C, D, E, and F - at three different points in time – 2016, 2020, and 2024. The plot represents the exact changes in their SI, with X-coordinate representing % increase in 2020 from 2016, i.e., (SI in 2020 minus SI in 2016) / (SI in 2016), and Y-coordinate representing % increase in 2024 from 2020. At any point in time, the country with highest SI is ranked 1, while the country with the lowest SI is ranked 6. The following additional facts are known.

1. In 2016, B, C, E, and A had ranks 1, 2, 3, and 4 respectively.
2. F had lower SI than any other country in 2016, 2020, and 2024.
3. In 2024, E was the only country with SI of 90.
4. The range of SI of the six countries was 60 in 2016 as well as in 2024.



14. What was the SI of E in 2016?

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15. What was the SI of F in 2020?

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16. What was the SI of C in 2024?

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17. What was the SI of B in 2024?

(A) 60
(B) 45
(C) 54
(D) 80

Comprehension (Questions 18-22):

Ananya Raga, Bhaskar Tala, Charu Veena, and Devendra Sur are four musicians. Each of them started and completed their training as students under each of three Gurus - Pandit Meghnath, Ustad Samiran, and Acharya Raghunath between 2013 and 2024, including both the years. Each Guru trains any student for consecutive years only, for a span of 2, 3, or 4 years, with each Guru having a different span. During some of these years, a student may not have trained under these Gurus; however, they never trained under multiple Gurus in the same year.

In none of these years, any of these Gurus trained more than two of these students at the same time. When two students train under the same Guru at the same time, they are referred to as Gurubhai, irrespective of their gender.

The following additional facts are known.

1. Ustad Samiran never trained more than one of these students in the same year.
2. Acharya Raghunath did not train any of these students during 2015-2018, as well as during 2021-24.
3. Ananya and Devendra were never Gurubhai; neither were Bhaskar and Charu. All other pairs of musicians were Gurubhai for exactly 2 years.
4. In 2013, Ananya and Bhaskar started their trainings under Pandit Meghnath and under Ustad Samiran, respectively.

18. In which of the following years were Ananya and Bhaskar Gurubhai?

(A) 2020
(B) 2021
(C) 2018
(D) 2014

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19. In which year did Charu begin her training under Pandit Meghnath?

(A) 2015
(B) 2016
(C) 2017
(D) 2021

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20. In which of the following years were Bhaskar and Devendra Gurubhai?

(A) 2022
(B) 2020
(C) 2018
(D) 2015

21. Which of the following statements is TRUE?

(A) Charu was training under Ustad Samiran in 2019.
(B) Ananya was training under Ustad Samiran in 2018.
(C) Charu was training under Ustad Samiran in 2018.
(D) Ananya was training under Ustad Samiran in 2015.

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22. In how many of the years between 2013-24, were only two of these four musicians training under these three Gurus?
