CAT 2025 DILR SLOT 3 Question Paper

Time Allowed :40 Minutes	**Maximum Marks :**66	**Total Questions :**22

General Instructions

Read the following instructions very carefully:

1. The total duration of the test is **40 minutes** per section.
2. Each correct answer carries **+3 marks**.
3. For multiple-choice questions (MCQs), **−1 mark** will be deducted for each wrong answer.
4. There is **no negative marking** for Type-in-the-Answer (TITA) questions.
5. Once the allotted time for a section ends, you will automatically move to the next section. You cannot go back to a previous section.
6. All answers must be entered on the computer screen using the mouse and keyboard. Rough sheets will be provided.
7. The use of calculators, mobile phones, or any other electronic device is strictly prohibited. An on-screen basic calculator will be provided.

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1. Six employees — A, B, C, D, E, F — are to be assigned to **three projects** (P1, P2, P3) such that:

- Each project has **exactly two** employees.
- A and D cannot be together.
- B must be with either C or F.
- E must be in a project different from C.
- F cannot be in P1.

How many valid assignments are possible?

(A) 8
(B) 10
(C) 12
(D) 14

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2. Eight people — P, Q, R, S, T, U, V, W — are seated in **two rows of four** each: Row 1 (front): _ _ _ _ Row 2 (back): _ _ _ _ Each back-row seat is directly behind a front-row seat.

Rules: 1. P sits directly in front of R. 2. Q is somewhere to the right of P (same row as P). 3. T and S cannot be in the same row. 4. W must be in the front row. 5. U must sit immediately left of V (same row).
How many seating arrangements are possible?

(A) 12
(B) 16
(C) 18
(D) 20

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3. Four companies — C1, C2, C3, C4 — must interview four candidates — P, Q, R, S — over four time slots (T1–T4). Each candidate gets **one unique slot** and each company interviews exactly one candidate per slot. (Note: Standard interpretation for this puzzle type is a matching problem: 4 interviews total, 1 per slot, 1 per company, 1 per candidate).
Constraints: 1. P cannot be interviewed by C1 or C3. 2. Q must be interviewed in either T1 or T4. 3. R must be interviewed **before** S. 4. C4 only interviews candidates in T2 or T3. 5. No company interviews the same candidate they interviewed last year: (C1–P), (C2–Q), (C3–R), (C4–S).
How many valid interview schedules are possible?

(A) 6
(B) 8
(C) 10
(D) 12

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4. In a survey of 250 people about three activities (Reading, Sports, Travel):

- 130 like Reading (R)
- 110 like Sports (S)
- 120 like Travel (T)
- 55 like both Reading & Sports ($R \cap S$)
- 50 like both Sports & Travel ($S \cap T$)
- 45 like both Reading & Travel ($R \cap T$)
- 25 like all three ($R \cap S \cap T$)

How many like only Travel?

(A) 35
(B) 40
(C) 45
(D) 50

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5. Five lectures — L1, L2, L3, L4, L5 — must be scheduled from Monday to Friday, one each day. Five professors — A, B, C, D, E — will take them (each exactly once).
Conditions: 1. A takes L3. 2. L2 must be scheduled after L5. 3. C does not teach on Wednesday or Friday. 4. D takes a lecture before E. 5. B does not teach L4.
How many valid schedules are possible?

(A) 12
(B) 15
(C) 18
(D) 20

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6. A delivery driver must travel from Source (S) to Destination (D). The map is: $S \to A \to C \to D$, $S \to B \to C \to D$, $S \to A \to E \to D$, $S \to B \to F \to D$. Rules: 1. A route cannot repeat a node. 2. A route cannot have more than 3 edges. 3. C cannot be visited if E is visited. 4. B cannot be used if F is used.
How many valid routes from S to D exist?

(A) 3
(B) 4
(C) 5
(D) 6

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7. Four teams — T1, T2, T3, T4 — play a tournament where each team plays **exactly two matches** (not round-robin). Match results:

- No match ends in a draw.
- T1 defeats T3.
- T4 plays exactly one match before it plays T2.
- T2 wins exactly one match.
- T3 does not defeat T4.
- Total matches = 4.

How many valid sequences of wins/losses across all matches are possible?

(A) 6
(B) 8
(C) 10
(D) 12
