

DILR Master Class



Answer the following questions based on the information given below:

Abdul, Bikram and Chetan are three professional traders who trade in shares of a company XYZ Ltd. Abdul follows the strategy of buying at the opening of the day at 10 am and selling the whole lot at the close of the day at 3 pm. Bikram follows the strategy of buying at hourly intervals: 10 am, 11am, 12 noon, 1 pm. And 2 pm, and selling the whole lot at the close of the day. Further, he buys an equal number of shares in each purchase. Chetan follows a similar pattern as Bikram but his strategy is somewhat different. Chetan's total investment amount is divided equally among his purchases. The profit or loss made by each investor is the difference between the sale value at the close of the day less the investment in purchase. The "return" for each investor is defined as the ratio of the profit or loss to the investment amount expressed as a percentage.

1. On a day of fluctuating market prices, the share price of XYZ Ltd. ends with a gain, i.e, it is higher at the close of the day compared to the opening value. Which trader got the maximum return on that day?
(1) Bikram (2) Chetan (3) Abdul (4) Bikram or Chetan (5) cannot be determined
2. Which one of the following statements is always true?
(1) Abdul will not be one with the minimum return
(2) Return for Chetan will be higher than that of Bikram
(3) Return for Bikram will be higher than that of Chetan
(4) Return for Chetan cannot be higher than that of Abdul
(5) none of the above
3. On a "boom" day the share price of XYZ Ltd. keeps rising throughout the day and peaks at the close of the day. Which trader got the minimum return on that day?
(1) Bikram (2) Chetan (3) Abdul (4) Abdul or Chetan (5) cannot be determined
4. On a "bear" day the share price of XYZ Ltd. keeps falling throughout the day and is lowest at the close of the day. Which trader got the best return on that day?
(1) Bikram (2) Chetan (3) Abdul (4) Abdul or Chetan (5) cannot be determined

Five horses, Red, White, Grey, Black and Spotted participated in a race. As per the rules of the race, the persons betting on the winning horse get four times the bet amount and those betting on the horse that came in second get thrice the bet amount. Moreover, the bet amount is returned to those betting on the horse that came in third, and the rest lose the bet amount. Raju bets Rs. 3000, Rs. 2000 and Rs. 1000 on Red, White and Black horses respectively and ends up with no profit and no loss.

5. Which of the following cannot be true?

- (1) At least two horses finished before Spotted
- (2) Red finished last
- (3) There were three horses between Black and Spotted
- (4) There were three horses between White and Red
- (5) Grey came in second

6. Suppose, in addition, it is known that Grey came in fourth. Then which of the following cannot be true?

- (1) Spotted came in first
- (2) Red finished last
- (3) White came in second
- (4) Black came in second
- (5) There was one horse between Black and White

7. Suppose, in addition, it is known that White came in Second. Then which of the following must be true?

- (1) Spotted came in first
- (2) Red finished last
- (3) Grey came in last
- (4) Grey came in first
- (5) Black or Red came in last

8. Suppose, in addition, it is known that Red came in last.

Then which of the following must be true?

- (1) Spotted came in first or Second
- (2) White finished 3rd or 4th.
- (3) Grey came in last or 4th
- (4) Grey came in first or second
- (5) White finished 3rd or 2th

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Answer the following questions based on the information given below: In a sports event, six teams (A, B, C, D, E and F) are competing against each other. Matches are scheduled in two stages. Each team plays three matches in Stage – I and two matches in Stage – II. No team plays against the same team more than once in the event. No ties are permitted in any of the matches. The observations after the completion of Stage – I and Stage – II are as given below.

Stage-I:

- One team won all the three matches.
- D lost to A but won against C and F.
- B lost at least one match.
- Two teams lost all the matches.
- E lost to B but won against C and F.
- F did not play against the top team of Stage-I.

Stage-II:

- Of the two teams at the bottom after Stage-I, one team won both matches, while the other lost both matches.
- The leader of Stage-I lost the next two matches
- Once more team lost both matches in Stage-II.

9. The two teams that defeated the leader of Stage-I are:

(1) F & D (2) E & F (3) B & D (4) E & D (5) F & D

10. The only team(s) that won both matches in Stage-II is (are)

(1) B (2) E & F (3) A, E & F (4) B, E & F (5) B & F

11. The teams that won exactly two matches in the event are

(1) A, D & F (2) D & E (3) E & F (4) D, E & F (5) D & F

12. The team(s) with the most wins in the event is (are)

(1) A (2) A & C (3) F (4) E (5) B & E

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In a square layout of size $5\text{m} \times 5\text{m}$, 25 equal sized square platforms of different heights are built. The heights (in metres) of individual platforms are as shown below.

6	1	2	4	3
9	5	3	2	8
7	8	4	6	5
3	9	5	1	2
1	7	6	3	9

Individuals (all of same height) are seated on these platforms. We say an individual A can reach an individual B if all the three following conditions are met:

- i.) A and B are In the same row or column
- ii.) A is at a lower height than B
- iii.) If there is/are any individual(s) between A and B, such individual(s) must be at a height lower than that of A.

Thus in the table given above, consider the Individual seated at height 8 on 3rd row and 2nd column. He can be reached by four individuals. He can be reached by the individual on his left at height 7, by the two individuals on his right at heights of 4 and 6 and by the individual above at height 5. Rows in the layout are numbered from top to bottom and columns are numbered from left to right.

13. How many individuals in this layout can be reached by just one individual?

- A. 3
- B. 5
- C. 7
- D. 8

14. Which of the following is true for any individual at a platform of height 1 m in this layout?

- A. They can be reached by all the individuals in their own row and column
- B. They can be reached by at least 4 individuals
- C. They can be reached by at least one individual
- D. They cannot be reached by anyone

15. We can find two individuals who cannot be reached by anyone in

- A. the last row
- B. the fourth row
- C. the fourth column
- D. the middle column

16. Which of the following statements is true about this layout?

- A. Each row has an individual who can be reached by 5 or more individuals
- B. Each row has an individual who cannot be reached by anyone
- C. Each row has at least two individuals who can be reached by an equal number of individuals
- D. All individuals at the height of 9 m can be reached by at least 5 individuals

Share market

(5) none of the above Explanation – Since we do not know what are the share prices during different times of the day we cannot come to any conclusion.

(5) none of the above Explanation – Abdul buys all his shares at 10 am while the other two purchases once every hour. Since the share prices throughout the day is not specified, we cannot compare the returns of Abdul with the other two. Let us observe the strategies adopted by Bikram and Chetan. Bikram buys equal number of shares every one hour, irrespective of their prices. Chetan invests equal amount every one hour, irrespective of the share prices. This means that higher the share price, lesser the number of shares purchased by him. This in turn reduces his return. So whenever the prices are changing, Chetan's returns will be higher than Bikram's. In case, the share prices remain the same, the returns of Bikram and Chetan will be equal. Hence, the correct option is (5) – none of the above.

(1) Bikram. $A > C > B$ Explanation – As the share prices are increasing throughout the day, the earlier a person invests, the more profitable it would be. Therefore, Abdul who invested in the beginning only, had reaped in the maximum return. Between Bikram and Chetan, Bikram bought a fixed number of shares every one hour, i.e. towards the end, he must have bought the same number of shares at an even higher rate. Meanwhile, Chetan invested same amount every one hour, i.e. he bought higher number of shares when the prices were low and vice versa. Hence, Chetan's return will be definitely higher than Bikram's

(1) Bikram. $A > C > B$ Explanation – As the share prices are decreasing throughout the day all are into losses. But Bikram will have minimum loss.

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“Raju bets Rs. 3000, Rs. 2000 Rs. 1000 on Red, White and Black horses respectively and ends up with no profit and no loss”

The possibilities to suite this condition:

Possibility	Red	White	Black	Gray	Spotted
1	4 or 5	3	1	2 or 4 or 5	2 or 4 or 5
2	4 or 5	2	4 or 5	1 or 3	1 or 3
3	3	4 or 5	2	1 or 4 or 5	1 or 4 or 5

Q1) we check the answer options one by one:

(1) At least two horses finished before Spotted

This may be true for all the three possibilities

(2) Red finished last

This may be true for possibilities 1 and 2

(3) There were three horses between Black and Spotted

This may be true for all the three possibilities

(4) There were three horses between White and Red

This is not true for all possibilities

(5) Grey came in second

This may be true for possibility-1

Answer (4)

Q2) we check the answer options one by one:

In addition, it is known that Grey came in fourth. By applying this condition to the above table, possibility-2 is ruled out and the remaining two possibilities are depicted here:

Possibility	Red	White	Black	Gray	Spotted
1	5	3	1	4	2
3	3	5	2	4	1

(1) Spotted came in first This is true for possibility-3

(2) Red finished last This is true for possibility-1

(3) White came in second This is not true for all possibilities

(4) Black came in second This is true for possibility-3

(5) There was one horse between Black and White This is true for possibility-1

Answer (3)

3. Red or black came in last. (5)

Possibility	Red	White	Black	Gray	Spotted
2	4 or 5	2	4 or 5	1 or 3	1 or 3

4. White is 2 or 3

Possibility	Red	White	Black	Gray	Spotted
1	4 or 5	3	1	2 or 4 or 5	2 or 4 or 5
2	4 or 5	2	4 or 5	1 or 3	1 or 3

As each team plays 3 matches in stage I and 2 matches in stage II so in stage I there would be 9 matches and in stage II there would be 6 matches.

Stage I : There is one team which won all the matches in stage I, so it cannot be D, E, B, C or F as they all lost matches as per the observations of stage I. So A wins all 3 matches.

A, B, D & E won atleast one match. So it is C and F who lost all 3 matches.

D has 2 wins (against C & F) and one loss (to A).
E has 2 wins (against C & F) and one loss (to B).
Hence, the situation after stage I observations is :

A — 3 W
D — 2W, 1L
E — 2W, 1L
C — 3 L
F — 3 L
B — 2 W, 1L
i.e. 9W and 9L in all (9 matches.)

Stage II : A lost its next 2 matches.
Out of C & F one wins its next two matches and the other loses the next 2 matches. As F did not play against A in stage I, so he will win against A in stage II.
Thus F wins both matches and C loses both matches in stage II.

Out of the remaining 3 teams, viz. B, D and E, one team

loses both matches. As there have to be 6 wins in all, so the other two will win both their matches.
E has played with B, C and F in stage I, so he plays with A and D in stage II. Thus E wins both its matches.
D played with A, C and F in stage I, so he plays with B & E in stage II. As E has won both its matches so D lost both its matches.

Situation after stages

1. (e) The teams which won exactly 2 matches in the event are D & F.
2. (e) The team with most wins are B and E (4 wins each).
3. (b) The matches in stage I :
Plays with (wins or lose)
A — D (L)
B — E (L)
C — D (W), E (W)
D — A (W), C (L), F (L)
E — B (W), C (L), F (L)
F — D (W), E (W)
As F did not play with the top team (A) in stage I so only B, C, D and E can play with A. As E plays its matches with B, C and F so A plays with B, C and D in stage I and with E and F in stage II.
Hence, E & F defeats A in stage II.
4. (d) B, E & F wins both their matches in stage - II

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1. The number of persons who can be reached by just one individual is circled

6	1	②	4	3
9	5	3	2	8
⑦	8	④	6	⑤
③	9	5	1	②
1	7	6	③	9

2. For individual at a platform of height 1, they cannot be reached by anyone as condition ii will be violated.

3. Only in the fourth column we can find two individuals who cannot be reached by anyone. In the fourth column the individual at height 2 and the individual at height 1 cannot be reached by anyone.

4. Statement 1 is wrong as no individual in row 1 can be reached by 5 or more individuals. Statement 2 is wrong as row 3 has no individual who cannot be reached by anyone. Statement 4 is wrong as the individual at height 9 in column 1 can be reached by only 4 individuals. Only statement 3 is correct.

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