## Study Notes On Puzzles

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## PUZZLE

Puzzles is a set of information that is given in a complex or twisted form and by applying your reasoning ability you have to simplify the complex information.

## Approach to attempt puzzles: -

1. In puzzles, first of all, collect all the direct information which is given.
2. Arrange them in simplified form.
3. Point out all the negative information.
4. Other facts can find out from the indirect information.
5. The most important part is that in many cases there will be more than one possibility.
6. Don't hesitate to go for possibility, take all conditions.
7. And at a point, all possibilities which violate other information in puzzles except one all possibilities will be cancelled.
8. By following this process, you will get the desired result.

There are many types of puzzles comes under reasoning section but below are some important types of puzzles which is very important from the exam point of view.
1)Floor Based Puzzle
2) Comparison type questions
3) Tabulation Based Puzzle
4) Scheduling Puzzle

## Example 1

Direction (1-5): Study the following data carefully and answer the questions accordingly.

Nine people M, N, O, P, Q, R, S, T, and U are living in a ten-story building with the ground floor as $1^{\text {st }}$ floor and $10^{\text {th }}$ floor as the top floor. One floor is vacant. U lives below O . P lives above O but not on an odd-numbered floor. O lives four floors away from M . Four floors are there between S and Q . R lives above T but below U . N lives on a floor that is between Q and S but not on an odd-numbered floor. $S$ lives on the fourth floor. There are six floors between $Q$ and $M$.

1. Which of the following floors is vacant?
A. Eighth
B. Ninth
C. Fifth
D. Seventh

Ans.
Sol.

1) S lives on the fourth floor.
2) Four floors are there between $S$ and $Q$.
3) There are six floors between $Q$ and $M$.

| Floors | Persons |
| :--- | :--- |
| 10 |  |
| 9 | Q |
| 8 |  |
| 7 |  |
| 6 |  |
| 5 |  |
| 4 | S |
| 3 |  |
| 2 | M |
| 1 |  |

4) O lives four floors away from M .
5) $N$ lives on a floor that is between $Q$ and $S$ but not on an odd-numbered floor.
6) $P$ lives above $O$ but not on an odd-numbered floor.

| Floors | Persons |
| :--- | :--- |
| 10 | P |
| 9 | Q |
| 8 | N |
| 7 |  |
| 6 | O |
| 5 |  |
| 4 | S |
| 3 |  |
| 2 | M |
| 1 |  |

$R$ lives above $T$ but below $U$.
7) U lives below 0 .

| Floors | Persons |
| :--- | :--- |
| 10 | P |
| 9 | Q |
| 8 | N |
| 7 | --- |
| 6 | O |
| 5 | U |
| 4 | S |
| 3 | R |
| 2 | M |
| 1 | T |

2. How many people live below $N$ ?
A. Five
B. Seven
C. Six
D. Eight

Ans. C
Sol.

1) S lives on the fourth floor.
2) Four floors are there between $S$ and $Q$.
3) There are six floors between $Q$ and $M$.

| Floors | Persons |
| :--- | :--- |
| 10 |  |
| 9 | Q |
| 8 |  |
| 7 |  |
| 6 |  |
| 5 |  |
| 4 | $S$ |
| 3 |  |
| 2 | $M$ |
| 1 |  |

4) O lives four floors away from M .
5) $N$ lives on a floor that is between $Q$ and $S$ but not on an odd-numbered floor.
6) $P$ lives above $O$ but not on an odd-numbered floor.

| Floors | Persons |
| :--- | :--- |
| 10 | P |
| 9 | Q |
| 8 | N |
| 7 |  |
| 6 | O |
| 5 |  |
| 4 | S |
| 3 |  |
| 2 | M |
| 1 |  |

7) $R$ lives above $T$ but below $U$.
8) $U$ lives below $O$.

| Floors | Persons |
| :--- | :--- |
| 10 | P |
| 9 | Q |
| 8 | N |
| 7 | --- |
| 6 | O |
| 5 | U |
| 4 | S |
| 3 | R |
| 2 | M |
| 1 | T |

3. Who lives just above U?
A. Q
B. $S$
C. N
D. 0

Ans. D
Sol.

1) S lives on the fourth floor.
2) Four floors are there between $S$ and $Q$.
3) There are six floors between $Q$ and $M$.

| Floors | Persons |
| :--- | :--- |
| 10 |  |
| 9 | Q |


| 8 |  |
| :--- | :--- |
| 7 |  |
| 6 |  |
| 5 |  |
| 4 |  |
| 3 |  |
| 2 | M |
| 1 |  |

4) O lives four floors away from M .
5) $N$ lives on a floor that is between $Q$ and $S$ but not on an odd-numbered floor.
6) P lives above $O$ but not on an odd-numbered floor.

| Floors | Persons |
| :--- | :--- |
| 10 | P |
| 9 | Q |
| 8 | N |
| 7 |  |
| 6 | O |
| 5 |  |
| 4 | S |
| 3 |  |
| 2 | M |
| 1 |  |

7) $R$ lives above $T$ but below $U$.
8) U lives below $O$.

| Floors | Persons |
| :--- | :--- |
| 10 | P |
| 9 | Q |
| 8 | N |
| 7 | --- |
| 6 | O |
| 5 | U |
| 4 | S |
| 3 | R |
| 2 | M |
| 1 | T |

## Example 2

Direction: Study the following data carefully and answer the questions accordingly.

Seven people are born in seven different years i.e. 1956, 1961, 1965, 1978, 1989, 1993, and 2001 but not necessarily in the same order. The age is calculated according to the present year i.e. 2021. The age of $R$ is a multiple of 7 . Two people are born between R and T . The age difference of T and W is a multiple of $8 . \mathrm{W}$ is not the youngest. One person is born between W and $F$. The age difference of $T$ and $F$ is an odd number. $J$ is older than $Y$ but not the oldest. S is older than F .

Who among the following is the oldest?
A. F
B. W
C. S
D. R
E. None of these

Ans. C
Sol.

1. The age of $R$ is a multiple of 7 .
2. Two people are born between $R$ and $T$.
3. The age difference of $T$ and $W$ is a multiple of 8 .
4. $W$ is not the youngest.

|  |  | Case 1 | Case 2 |
| :---: | :---: | :---: | :---: |
| Age | Year | Person | Person |
| 65 Y | 1956 |  |  |
| 60 Y | 1961 | W |  |
| 56 Y | 1965 | R | T |
| 43 Y | 1978 |  |  |
| 32 Y | 1989 |  | W |
| 28 Y | 1993 | T | R |
| 20 Y | 2001 |  |  |

5. One person is born between $W$ and $F$.
6. The age difference of $T$ and $F$ is an odd number.
(Here, case 2 will be eliminated and we will continue with the case 1)

|  |  | Case 1 | Case 2 |
| :---: | :---: | :---: | :---: |
| Age | Year | Person | Person |
| 65 Y | 1956 |  |  |
| 60 Y | 1961 | W |  |
| 56 Y | 1965 | R | T |
| 43 Y | 1978 | F |  |
| 32 Y | 1989 |  | W |
| 28 Y | 1993 | T | R |
| 20 Y | 2001 |  | F |

7. J is older than Y but not the oldest.
8. S is older than F .

| Age | Year | Person |
| :---: | :---: | :---: |
| 65 Y | 1956 | S |
| 60 Y | 1961 | W |
| 56 Y | 1965 | R |
| 43 Y | 1978 | F |
| 32 Y | 1989 | J |
| 28 Y | 1993 | T |
| 20 Y | 2001 | Y |

Hence, the required answer is S .

## Example 3

Direction: Study the following data carefully and answer the questions accordingly.

Six players i.e. Rohit, Virat, Dhoni, Sachin, Hardik and Shikhar are captain of six different Teams i.e. CSK, DC, MI, KKR, SRH and RCB and like different sports brands i.e. Nike, Adidas, Puma, North face, Sketchers and Reebok but not necessarily in the same order. Three of them are batsman and three are bowler.

The player who likes Puma is neither a bowler nor a captain of RCB. Virat and Dhoni like Nike and Adidas respectively. The player who is captain of CSK is not a bowler. Shikhar does not like Sketchers and Reebok. The player who is a captain of MI likes Reebok. Rohit and Hardik are captain of KKR and RCB
respectively. Dhoni is not a captain of SRH but is a bowler. Sachin and Shikhar are Bowlers.

Who amongst the following is a captain of RCB?
A. Virat
B. Hardik
C. Sachin
D. Rohit

Ans. B
Sol.

| Player | Team | Brand | Type |
| :---: | :---: | :---: | :---: |
| Rohit | KKR | Puma | Batsman |
| Virat | CSK | Nike | Batsman |
| Dhoni | DC | Adidas | Bowler |
| Sachin | MI | Reebok | Bowler |
| Hardik | RCB | Sketchers | Batsman |
| Shikhar | SRH | North face | Bowler |

## Example 4

Direction: Read the following information carefully to answer the questions based on it.

Eight people A, B, C, D, E, F, G and H were born on eight different months i.e., February, March, May, June, August, September, November and December but not necessarily in the same order. B was born in the month having 31 days. Five people were born between $B$ and $H$. Three people were born between H and G . Two people were born between G and A . A was born before G. C was born in a month having 31 days. Three people were born between C and D. E was born before C.

How many people were born between $C$ and $A$ ?
A. Two
B. Three
C. One
D. Five

Ans. C

Sol.

1) B was born in the month having 31 days.
2) Five people were born between $B$ and $H$.

Here, we have 2 cases:

|  | Case 1 | Case 2 |
| :---: | :---: | :---: |
| Month | People | People |
| February |  |  |
| March | B | H |
| May |  |  |
| June |  |  |
| August |  |  |
| September |  |  |
| November |  |  |
| December | H | B |

3) Three people were born between H and G .
4) Two people were born between $G$ and $A$.
5) A was born before G.

|  | Case 1 | Case 2 |
| :---: | :---: | :---: |
| Month | People | People |
| February | A |  |
| March | B | H |
| May |  | A |
| June | G |  |
| August |  |  |
| September |  | G |
| November |  |  |
| December | H | B |

6) C was born in a month having 31 days.
7) Three people were born between $C$ and $D$.
8) E was born before C.

| Month | People |
| :---: | :---: |
| February | D |
| March | H |
| May | A |
| June | E |
| August | C |
| September | G |
| November | F |
| December | B |

Hence, one person was born between $C$ and $A$.

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