

## Puzzle test Questions for SBI PO and IBPS PO Exams.

Direction: Read the following information carefully and answer the questions given below.
First 15 natural numbers are written from bottom to top. The letters of the word 'SCORE' are written in alphabetical order against the multiples of 3 such that one letter is written against one number from bottom to top. Only three numbers are left blank and against rest of the numbers, letters viz. X, Y, Z, D, J, K and L were written against rest of the numbers not necessarily in the same order.

- Only three letters were written between $Y$ and $E$.
- L was written against the number which is the highest odd prime number among the given numbers.
- The bottom most number was not left blank.
- X was written at a gap of two places from L.
- D and $X$ were adjacent.
- J was immediately above Y.
- Two blank positions were not consecutive.
- K was written exactly between E and J.
- Number of places above and below Z were same.

1. What is the sum of the numbers against which letters $Z$ and $K$ are written?
A. 14
B. 12
C. 18
D. 10
E. None of these
2. Four of the following five are alike in a certain way and thus form a group. Which of the following does not belong to the group?
A. 10
B. 9
C. 12
D. 4
E. C7
3. How many letters are written below 'X'?
A. 5
B. 3
C. 8
D. 7
E. None of these

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## SET - 2

Eight persons - Babu, Tara, Mony, Gopi, Radhe, Rinky, Daya and Piku, were born in the different months - July, August, September and October, not necessarily in the same order and these persons were born on either $13^{\text {th }}$ or $20^{\text {th }}$ of these months such that the male members were born on even numbered dates and the female members were born on the prime numbered dates. Each of these persons was related to Babu in the following manner - brother, sister, wife, son, mother, father and daughter, again not necessarily in the same order.

Babu's brother was born just after Piku.
Piku and Daya were born at a gap of 3 persons.
Babu's father was born in July.
Babu and Gopi were born in consecutive months but not on consecutive turns.
Mony was born after Babu's sister at a gap of 1 person.
Number of persons who were born after Rinky was twice as that of the number of persons who were born before Tara.
Neither Rinky nor Tara was the last to be born.
Babu's mother was born either in September or October
Babu's son was born just before Babu's daughter.
Radhe was either the brother or father of Babu
Daya was not the first to be born.
4. How many person(s) were born between Babu's son and Babu's father?
A. None
B. One
C. Two
D. Three
E. More than three
5. Four of the following five are alike in some way and hence form a group. Which of the following is the one that does not belong to the group?
A. Gopi
B. Daya
C. Babu
D. Radhe
E. Rinky
6. If the names of these persons are arranged according to the order of the dictionary starting from $13^{\text {th }}$ of July then what would be the date and month in which Babu's mother was born?
A. $20^{\text {th }}$ September
B. $13^{\text {th }}$ August
C. $13^{\text {th }}$ October
D. $20^{\text {th }}$ August
E. $20^{\text {th }}$ September
7. How is the one who was born in a month with even number of days but not on even numbered date was related to the one who was born in the same month as Babu?
A. Uncle
B. Father
C. Son
D. Niece
E. Mother

## SET - 3

Eight players namely Parthiv Patel, Prithvi Shaw, Hardik Pandya, Virat Kohli, Cheteshwar Pujara, Murali Vijay, Ishanth Sharma and Dinesh Karthik played their debut test match in different years among 2002, 2004, 2007, 2008, 2010, 2011, 2017 and 2018 but not necessarily in the same order. Each of them is having different highest scores like 134, 108, 243, 206, 167, 31, 129 and 71 but not necessarily in the same order. Consider the one who played his debut match in 2002 as the senior most person and the one who played his debut match in 2018 as junior most person.

The one who scored 206 runs is senior to the one who scored 108 runs but junior to the one who scored 129 runs and none of them is the junior most person. The one who scored 134 runs did not play his debut match in 2008. Ishanth Sharma is junior to the one who scored 71 runs. Only one person played his debut match between Cheteshwar Pujara and Hardik Pandya, who is junior to Virat Kohli. Only two persons played their debut match between Murali Vijay and the one who scored 71 runs. Dinesh Karthik neither scored 71 runs nor 134 runs. At most two persons played their debut match after Virat Kohli, who scored the highest runs. The one who scored the second least runs is not the second junior most person. The one who scored the highest runs is not the junior most person. Only one person played his debut match between Ishanth Sharma, who scored the lowest runs and the one who scored 71 runs. Parthiv Patel is senior to Prithvi Shaw. At most three players played their debut match before Murali Vijay, who scored third highest runs. Only one person played his debut match between Virat Kohli and the one who scored 134 runs. The one who scored the lowest runs is not the junior most person.
8. Who among the following scored 129 runs?
A. Parthiv Patel
B. Prithvi Shaw
C. Cheteshwar Pujara
D. Dinesh Karthik
E. Can't be determined
9. What is the sum of runs scored by the one who played his debut match in 2010 and Hardik Pandya?
A. 340 runs
B. 242 runs
C. 314 runs
D. 351 runs
E. None of these
10. How many players played their debut match before the one who scored 206 runs?
A. Five
B. Four
C. Three
D. Either A or B
E. Either B or C

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## SET - 4

While doing a survey, a surveyor has prepared a $3 \times 4$ matrix, that contained inputs numbered from 1 to 25 except the prime numbers. The rows of the matrix are denoted by symbols - @,\&,* and \# respectively. The columns of the matrix are denoted by letters $-X, Y$ and $Z$ respectively. No two inputs are of same value.

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ |  |  |  |
| $\&$ |  |  |  |
| $*$ |  |  |  |
| $\#$ |  |  |  |

Each of the numbers is an input that is added to form an observation. With each observation certain tables $-J, K, L$ and $M$ are referred. If the sum of inputs is $<30$, then table $J$ is referred, if such sum is $30-50$ then table $K$ is referred, if $51-75$ then table $L$ is referred and if more than 75 then table $M$ is referred.

The value of observation is calculated on the basis of certain conditions mentioned below:
I. If the value of all the inputs is even then add the second largest and second smallest value.
II. If the value of inputs contain some odd and some even numbers then obtain the difference of the square of sum of the unit digits of the value and square of sum of tens digits of the value.
III. If the value of inputs contains at least one perfect square then add those numbers which has two digits. If the inputs have a value which is not in double digit then consider it as Zero.
IV. If the value of inputs contains at least one blank input then value of sound will be equivalent to the value of the highest input.
V . Each input is transmitted either in chart A or chart B or both charts A and B. If there are two charts, value of both is added together.

Note- If condition IV is applicable with any other condition then condition IV will overrule all the other conditions.
If condition II and III are applicable simultaneously then condition III will overrule all the other conditions.

Prepare the matrix with the following information:
(Consider your left as left and your right as right)
Input 15 was second from the left end in row *. 12 and 10 belong to column $Z$ but neither of them was consecutive and 12 was above 10 . None of the inputs has prime number as its value. The left most value of row \& is 8.4 and 9 are the consecutive notes of either row @ or row \# where 9 is to the left of 4 . The sum of the notes of column $Z$ is 50 . The sum of row @ is 25 . The column immediate left to 6 is left blank. 24 was immediate left of 14.20 was at the extreme left end.
11. Which of the following tables will be referred if the value of chart $A$ is $@ Z \& X * Z \# Y$ ?
A. J
B. L
C. K
D. $M$
E. Either J or K
12. Which of the following inputs will make table $L$ refer?
A. @Y \& Y * $\# Z$
B. \& X \#Z @Y \&Z
C. @X \#X * ${ }^{\text {@ }}$
D. $@ Z \& X * Z \# Y$
E. All of the above
13. Which of the following tables will be referred when chart $B=\& X \& Y Z \# X$ ?
A. J
B. $K$
C. L
D. $M$
E. None of the above
14. Which of the following tables will be referred if chart $A=@ Z * Y @ Y$ \# $X$ and chart $B=$ \& $\mathrm{X}^{*} \mathrm{Z}$ \&Y @X?
A. J
B. $M$
C. K
D. L
E. Either L or M

## SET - 5

Urvi was playing with balls. She had 14 balls out of which only 6 had letters and numbers written on them. Rest of the balls were left blank i.e. no number and letter was printed on them. The letters were $A, B, C, D, E$ and $F$ and the numbers were $1,2,3,4,5$ and 6 but not necessarily in the same order. Each of the 6 balls had 1 unique letter and 1 unique number written on it. Urvi arranged all the balls in a stack such that the bottommost stack was numbered 1 and the topmost stack was numbered 14 and then rearranged the balls as per some rules related to the number on them. Rearrangement will take place as per the ascending order of the numbers printed on the balls.

- F's position from the top of the stack was equal to D's position from the bottom of the stack. F was somewhere above D.
- C was above D with a gap of 6 balls in between them.
- The ball with value 2 was below $F$ with a gap of 8 balls in between them.
- The number on $E$ was thrice as that of the number on B.
- The ball kept 6th from the top initially, had the least value
- B was above E with a gap of 2 balls in between them
- Number of balls below $B$ was equal to the number of balls above $A$
- Ball A had a value 2 more than that on ball $F$
- A and $C$ were kept at a gap of 1 ball.

The rules related to the rearrangement are as follows:

- The ball with number 1: Swap positions with the ball 7 positions above, if not possible, swap positions with the ball kept 2 positions below
- The ball with number 2: Swap positions with the ball having number 5
- The ball with number 3: Swap positions with the ball 6 places above, if not possible; ball remains at
the original place
- The ball with number 4: Swap positions with the ball with number 1 on it
- The ball with number 5: Remains at the latest place
- The ball with number 6: Swap positions with the ball kept one place above, if not possible, Swap positions with the ball kept 1 place down


## 15. The ball placed at the lowest stack after rearrangement has which of the following values printed on it?

A. A, 5
B. C, 4
C. $B, 1$
D. $\mathrm{C}, 1$
E. None of these
16. What is the difference between the new and the old position of the ball with letter $A$ ?
A. 0
B. 7
C. 11
D. 4
E. None of these

## 17. Position of the ball(s) kept at which of the following stack numbers will remain unchanged even after rearrangement?

A. Stack number 4
B. Stack number 1
C. Stack number 13
D. Stack numbers 1 and 13
E. None of these

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\text { SET - } 6
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Seven packages are to be exported to different countries by various shoe manufacturing companies. These packages are stacked one above the another in the godown and are exported from the top, from location Agra and upon arrival, are stacked one over the other, as and when they arrived, at location Delhi. From Delhi, the packages will be taken to their respective countries.

The package exported by Bata, which is not for USA, is kept exactly between the package to be exported by Action and the package exported for South Africa, which at Delhi, is in the bottom three. Action exported the package immediately after Bata to Australia which was not in the last 2 to be exported but in the last 2 to arrive at Delhi. There are exactly two packages at Agra between the package which arrived for Japan and the package which was exported immediately after Red chief, from Agra. Australia's package arrived exactly before one of the packages which was in the bottom three when exported. There are exactly two packages at Agra between the package which arrived for Russia and the package exported by Lancer. Lakhani was not the last to dispatch its package and it was neither for South Africa nor UK. Campus's package was not in the last three upon arrival. Russia's package arrived first because of express delivery. Due to the express shipment policy of Red chief, it exported the package first and was in the first two to arrive at Delhi. Lancer neither exported last nor for South Africa. One of the places was UK for which the package was exported at second place. The package exported for South Africa was above the package exported by Bata. Russia's package was not among the first three to be exported. The package to Italy was exported after Lakhani exported its package.
18. How many packages were arrived after the package exported by Lakhani?
A. None
B. Three
C. Four
D. One
E. Five
19. If the package of South Africa was delivered wrongly then which of the following companies will held liable?
A. Bata
B. Lakhani
C. Red chief
D. Action
E. None of these
20. Which of the following companies exported their packages at third and fifth place respectively?
A. Action, Lakhani
B. Bata , Lakhani
C. Lancer, Bata
D. Lakhani, Reebok
E. Can't be determined

## 21. Reebok exported its package to which of the following countries?

A. South Africa
B. USA
C. Japan
D. Italy
E. Can't be determined

## SET - 7

A producer was making a film for which he called up six different people viz. $A, B, C, D, E$ and $F$ of six different professions viz. Music director, Actor, Singer, Editor, Director and Choreographer not necessarily in the same order. Each professional had the visit to the Producers' office at different time slots. Each visit was of 1 hour and no 2 professionals had the same slot for visit. The slots were continuous, for example the slots can be 1PM-2PM, 2PM-3PM, 3PM-4PM (not necessarily the actual slots) and so on. The slots were numbered 1-6 as per their sequence i.e. the $1^{\text {st }}$ slot was numbered 1 and so on.

- B's slot number was twice as that of the slot number of the editor.
- The editor and choreographer had consecutive slots.
- There were 2 visits between A's and F's visit.
- A's visit was made just after the visit of the music director.
- The singer visited the office at 3 PM.
- The singer's slot number was 3 more than that of C's slot number.
- C and director had consecutive slots.
- The actor visited the office just before D.
- D and E did not have consecutive slots.


## 22. Who among the following visited the producer in the last?

A. The one who is an Actor
B. $B$
C. D
D. The one who is an Editor
E. Can't be determined

## 23. Who visited the producer's office just before the Director?

A. The one who is an editor
B. The one who is a choreographer
C. D
D. A
E. None of these

## 24. Who visited the producer first and in which time slot?

A. D, 11AM - 12 PM
B. C, 09AM - 10AM
C. B, 12PM-1PM
D. E, 10AM-11AM
E. None of these

## 25. Who among the following visited the producer exactly between Editor and D?

A. B
B. The one who is an actor
C. The one who is a Choreographer
D. E
E. C

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\text { SET - } 8
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Seven boxes namely T, U, V, W, X, Y and Z which are kept in different racks of the cupboard which has nine racks, where the lowermost rack is considered as rack 1 , rack above it is considered as rack 2 and so on. Each box has different number of chocolates such as $21,12,31,13,41,14$ and 44 but not necessarily in the same order.

There are three boxes kept between the racks of box U , which has 12 chocolates and box X , which is kept in rack 1.There are two boxes between box $U$ and box $W$, which has 44 chocolates. The rack which is just below the rack of box $Z$, which has 13 chocolates, is vacant. Box $Z$ and $V$ are kept in even numbered rack, but box $V$ is placed above box $U$. There are three racks between the rack, which has 21 chocolates and 41 chocolates. Box Y is kept below box T . Rack which is immediately below box Y is not vacant. Rack which is immediately above box $U$ is not vacant, and box $X$ has 14 chocolates. Box $W$ is not in 3rd rack.
26. How many vacant racks are there in between the racks where Box $U$ and Box $W$ are kept?
A. Zero
B. One
C. Two
D. Either A or B
E. Can't be determined
27. How many boxes are kept above the racks where Box $Y$ is kept?
A. Two
B. Three
C. Four
D. Five
E. Can't be determined

## 28. Which among the following boxes is placed in the topmost rack?

A. The box which has 21 chocolates
B. The box which has 41 chocolates
C. The box which has 31 chocolates
D. The box which has 44 chocolates
E. Can't be determined

## 29. What is the sum of chocolates of the boxes which are placed between the two Vacant

 racks?A. 34 chocolates
B. 52 Chocolates
C. 54 chocolates
D. Either A or B
E. Either A or C

## SET - 9

Ten persons - Avi, Ayesha, Anya, Aaru, Amy, Aksh, Ashu, Adwik, Annie and Atif are standing in their respective balconies on 10 different floors such that the topmost floor is numbered 10 and the bottommost floor is numbered 1. Only one person stands on one floor.

- Atif and Ashu are standing on consecutive floors.
- Amy's floor number is thrice of Atif's floor number.
- There are three floors between the floors of Aaru and Adwik. Adwik's floor was either just above or just below Atif's floor.
- Not more than three persons stood above Avi.
- Annie and Amy do not stand on consecutive floors.
- Number of persons standing below Ashu is same as the number of persons standing above Anya.
- Annie's floor number was twice of the floor number of Aksh.

Each of them rolled a dice only once. The movement takes place as per the ascending order of their initial floor numbers starting with the person on floor number 1 . The dice was rolled once only by one person. They make movements based upon the numbers they roll as per the rules given below.

1: remains on the same floor
2: move 5 floors up
3: swap position with the person just above
4: move to floor number 7
5: move to stair number 3
6: swap position with the person on the lowest floor

Note- After rearrangement two or more persons could stand on one floor.

It is also given that:

- Ashu rolled thrice the number rolled by Annie.
- Avi rolled twice the number rolled by Aksh.
- Aksh and Annie rolled consecutive numbers.
- Amy and Atif rolled the same number that is twice of what was rolled by Ashu.
- Anya and Aaru rolled numbers that have a difference of 4.
- Ayesha rolled the number which is twice of Adwik and Aksh.
- Not more than 2 persons rolled the same number.
- Anya's final position was somewhere below Aaru's.


## 30. Which of the following floors has the maximum number of persons after rearrangement?

A. Floor number 8
B. Floor number 7
C. Floor number 5
D. Floor number 6
E. None of these
31. How many floors are between the initial and the final position of Amy?
A. 7
B. 5
C. 2
D. 4
E. No change in final and initial positions of Amy
32. Four of the following five are alike in a certain way and thus form a group. Which of the following does not belong to the group?
A. Floor number 7
B. Floor number 8
C. Floor number 4
D. Floor number 9
E. Floor number 1
33. What is the sum of the initial floor number and the number rolled by Aksh?
A. 6
B. 8
C. 10
D. 12
$E$. None of these
34. Who among the following stand(s) between Amy and Ashu after rearrangement?
A. Avi
B. Atif
C. Arya
D. Both $A$ and $B$
E. Both B and C

> SET-10

Twelve candidates namely Ananya, Bakiya, Chander, David, Elakiya, Fathima, Gokila, Hirthika, Ishanth, Janaki, Kavya and Lathika are scheduled to attend bank interview in a week from Monday to Saturday. Only two interviews are scheduled on each day in different slots i.e. forenoon ( 9 am ) and after noon (2pm). Each of them attends the interview only once in a week. All the above information is not necessarily in the same order.

Ananya attends the interview in the forenoon of a day. Fathima's interview is scheduled next to Elakiya's interview. Chander's interview is scheduled on Thursday but not in the same slot as that of David. Ishanth's interview is scheduled on Saturday. A maximum of two interviews are scheduled between David's interview and Lathika's interview but, not in the same slot of any day. Bakiya's interview and Hirthika's interview are scheduled on two consecutive days of the week and in the same slot. A minimum of five interviews are scheduled between the interviews of Kavya and Gokila. Also, Gokila's interview is scheduled before the interview of Kavya. Janaki's interview is scheduled in the forenoon of Tuesday. Janaki attends her interview neither on the same day nor in the same slot in which Bakiya and Gokila attend their interview. David's interview is scheduled after the interview of Kavya but not on the same day. Bakiya's interview is scheduled before Hirthika's interview.

## 35. Interview of whom among the following is scheduled on Monday at 9am?

A. Elakiya
B. Ananya
C. Gokila
D. Hirthika
E. Can't be determined
36. Whose interview is scheduled on the next day in the same slot with respect to Chander?
A. David
B. Lathika
C. Kavya
D. Ishanth
E. Can't be determined
37. Which among the following pairs definitely have the interview on the same day?
A. Lathika, Kavya
B. Janki, Fathima
C. Chander, Bakiya
D. Ananya, Elakiya
E. Can't be determined

## 38. Whose interview is scheduled just after the interview of Hirthika?

A. Chander
B. Lathika
C. Fathima
D. Kavya
E. Can't be determined

## SET-11

A to H are the eight family members of having distinct salary, working efficiency and age in each category. They were ranked in each category from rank 1 to 8 with highest being 1st and lowest being 8th but not necessarily in the same order.
$D$, who is son-in-law of A's wife has better efficiency than $B$ but D's salary is immediately lesser than $E$. $B$ is grandfather of $H$. There are two mothers and two fathers in the family and $B$ is eldest person of the family. E , mother of H and C and getting higher salary than both H and C , but E has lower efficiency than $H$ and $C$, who is unmarried. No female has better efficiency than $B$. $D$ is immediately below to E in age category. $\mathrm{A}, \mathrm{D}$ and G doesn't have the same rank in any of the three categories. B has same rank in any of the two categories. A has better efficiency among all members. $F$ has lower salary among all members. C is one ranked below rank in both in salary and age category that she got in efficiency category. $C$ is the elder daughter of $A$ and has better efficiency than both her mother and grandmother but she is younger than both G and B. G is female member and she ranked second from bottom in efficiency category and got lesser salary than $D$ but immediate younger than B. $F$ is grandson of $G$ and has same rank in all categories. Equal number of males and females are there in the family. G has one daughter. G's son-in-law's salary and A's father-in-law salary are in consecutive ranks.
39. What is the rank of A's mother-in-law in salary category?
A. $5^{\text {th }}$
B. $6^{\text {th }}$
C. $7^{\text {th }}$
D. $4^{\text {th }}$
E. Can't be determined

## 40. What are relation between $A$ and E's daughter?

A. A's mother-in-law is grandmother E's daughter
B. A is father of E's daughter
C. A is mother of E's daughter
D. A is grandfather of E's daughter
E. Both $A$ and $B$

## 41. Which of the following statement is true as per the passage?

A. G got higher salary than $C$ but lesser than $E$.
B. Difference between the rank of G's salary and efficiency is 2 .
C. $C$ is one rank below than $E$ in each category.
D. Both $A$ and $B$
E. Both A and C

## 42. What is sum of ranks of $D$ in all three categories?

A. Fourteen
B. Thirteen
C. Fifteen
D. Eleven
E. None of the above

## SET-12

Eight persons namely Praveen, Queen, Ranjith, Sahana, Tushar, Umesh, Virat and Wafiq are went for shopping in different months among January to August but not necessarily in the same order. Each of them are purchased things for different amounts like Rs.1250, Rs.1750, Rs.2250, Rs.2750, Rs. 3250 and Rs.3650. Not more than two persons purchased things for same amount. No two persons went for shopping in a same month.

Ranjith went for shopping in a month, which doesn't have 31 days and he purchased for Rs. 1250 .
Only two persons went for shopping between Ranjith and Virat, who doesn't go in January.
Umesh went for shopping immediately before Ranjith.
The person, who went for shopping immediately after Virat, purchased for Rs. 3250 .
Two persons went for shopping between Tushar and the person, who went for shopping immediately after Virat.

Tushar doesn't go in July and he purchased for Rs. 3650 .

Queen went for shopping immediately before Praveen and neither of them purchased for Rs. 3250 .

Umesh and Sahana purchased for same amount but not for Rs.3250.
Only one person purchased for Rs. 2250 and Rs. 2750.
Ranjith and Queen purchased for same amount.

Praveen is not the last person to go for shopping.
The person who went for shopping in February doesn't purchase for Rs. 2750.
43. Virat purchased for how much amount?
A. Rs. 1750
B. Rs. 3250
C. Rs. 2750
D. Rs. 2250
E. None of these
44. Who went for shopping in August month?
A. Tushar
B. Sahana
C. Virat
D. Wafiq
E. None of these
45. How many persons went for shopping between the persons, purchased for Rs.1750?
A. One
B. Two
C. Three
D. Four
E. None of these
46. What is the sum of the amount together purchased by Praveen and Sahana?
A. Rs. 5000
B. Rs. 3500
C. Rs. 4000
D. Rs. 6000
E. None of these

SET - 13

An Electrical Engineer Ritesh has prepared a $3 \times 4$ matrix, that contained electronic circuits numbered as composite numbers between 3 to 32 (of natural number series). The rows of the matrix are denoted by symbols - @,\&,* and \# respectively. The columns of the matrix are denoted by letters $-X, Y$ and $Z$ respectively. No two circuits are of same value.

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ |  |  |  |
| $\&$ |  |  |  |
| $*$ |  |  |  |
| $\#$ |  |  |  |

Each of the numbers is an electronic circuit that is added to form a switch. With each switch certain buttons $P, Q, R$ and $S$ will blink. If the sum of electronic circuits is $<30$, then button $P$ will blink, if such sum is $30-50$ then button $Q$ will blink, if 51-75 then button $R$ will blink and if more than 75 then button $S$ will blink.

The value of switch is calculated on the basis of certain conditions mentioned below:
I. If the value of all the electronic circuits is even then add the largest and the second smallest value of the given track.
II. If the value of electronic circuits contain some odd and some even numbers then add the prime digits of the value and subtract it from the square of the sum of the composite digits.
III. If the value of electronic circuits contains at least one perfect square then obtain the difference of the unit and tens digits of the numbers that has two digits. If the electronic circuits have a value which is not in double digit then consider it as Zero.
IV. If the value of electronic circuits contains at least one blank musical note then its sound will be equivalent to the value of the highest electronic circuit.
V. Each electronic circuit is transmitted either in track A or track B or both tracks A and B. If there are two tracks, value of both is added together.

Note- If condition IV is applicable with any other condition then condition IV will overrule all the other conditions.

If condition II and III are applicable simultaneously then condition III will overrule all the other conditions.

Prepare the matrix with the following information:
(Consider your left as left and your right as right)
Column $X$ does not have an even numbered electronic circuit. There are only two electronic circuits between 6 and 12 where 6 is above 12 in column $Z$. The right most value of row * is 18 . The sum of column $Z$ is 46 . The sum of the first three circuits of column $X$ is a perfect square. The column to the immediate left of 18 is left blank. One of the electronic circuits valued as 24 . One of the values of row @ is 25 . The column to the immediate right of 15 is left blank. Only one column is blank in the entire matrix. Sum of any of the columns cannot exceed 75 . The value immediate left to 10 is 32 . One of the values of row @is 16 . The sum of the circuits of column $Y$ is the maximum.
47. Which of the following buttons will blink if track $A=* Z \& X \# Z \# X$ ?
A. Q
B. $R$
C. $S$
D. $P$
E. Either R or S
48. Which of the following buttons will blink if value of track $B$ is *Z \#Y \&Z @Z ?
A. Q
B. $R$
C. $P$
D. Either P or Q
E. S
49. Which of the following switches of track $A$ will make button $Q$ blink?
A. @Z \& X \#X \& Y
B. @Z *Z \#Y \& Y
C. \#Z *X @Z *Y
D. Both B and C
E. Either A or C
50. Which of the following buttons will blink if the switches of track $A$ and $B$ are *Y @Z \#X \& X and @Z *Z \#Z \#Y respectively?
A. P
B. Q
C. R
D. S
E. Either R or Q

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## CORRECT ANSWERS:

| 1 | B | 11 | A | 21 | D | 31 | D | 41 | D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | E | 12 | C | 22 | C | 32 | C | 42 | D |
| 3 | D | 13 | A | 23 | B | 33 | A | 43 | C |
| 4 | D | 14 | D | 24 | D | 34 | E | 44 | D |
| 5 | E | 15 | D | 25 | A | 35 | B | 45 | B |
| 6 | D | 16 | B | 26 | C | 36 | B | 46 | C |
| 7 | E | 17 | C | 27 | B | 37 | A | 47 | D |
| 8 | D | 18 | B | 28 | E | 38 | B | 48 | A |
| 9 | C | 19 | C | 29 | E | 39 | A | 49 | D |
| 10 | B | 20 | A | 30 | B | 40 | E | 50 | C |

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## Common Explanation: (Q. 1 to 3)

## Reference:

- First 15 natural numbers are written from bottom to top. The letters of the word 'SCORE' are written in alphabetical order against the multiples of 3 such that one letter is written against one number from bottom to top.
- Number of places above and below $Z$ were same.


## Inference:

The exact middle position is when $Z$ is written against number 8 , only then number of place above and below $Z$ will be 7 i.e. same.

| Numbers | Letters |
| :---: | :---: |
| 15 | S |
| 14 |  |
| 13 |  |
| 12 | R |
| 11 |  |
| 10 |  |
| 9 | 0 |
| 8 | Z |
| 7 |  |
| 6 | E |
| 5 |  |
| 4 |  |
| 3 | C |
| 2 |  |
| 1 |  |

## Reference:

- L was written against the number which is the highest odd prime number among the given numbers.
- X was written at a gap of two places from L.
- $D$ and $X$ were adjacent.

Inference:

The highest odd prime number among the given numbers is 13 , so L is placed against 13 .

| Numbers | Letters |
| :---: | :---: |
| 15 | S |
| 14 |  |
| 13 | L |
| 12 | R |
| 11 | D |
| 10 | X |
| 9 | O |
| 8 | Z |
| 7 |  |
| 6 | E |
| 5 |  |
| 4 |  |
| 3 | C |
| 2 |  |
| 1 |  |

## Reference:

- Only three letters were written between Y and E .
- J was immediately above Y.

Inference:

Therefore one of the positions between C and E is definitely blank in order to fulfill the condition that three letters are there in between $E$ and $Y$.

| Numbers | Letters |
| :---: | :---: |
| 15 | S |
| 14 |  |
| 13 | L |
| 12 | R |
| 11 | D |
| 10 | X |
| 9 | O |
| 8 | Z |
| 7 |  |
| 6 | E |
| 5 |  |
| 4 |  |
| 3 | C |
| 2 | J |
| 1 | Y |

## Reference:

- Two blank positions were not consecutive.
- K was written exactly between E and J.
- Only three numbers are left blank..


## Inference:

Therefore K is written against 4, to make it exactly between E and J.
The position against number 5 is left blank.
All the places are occupied by letters and there are only three blank positions.

| Numbers | Letters |
| :---: | :---: |
| 15 | S |
| 14 | Blank |
| 13 | L |
| 12 | R |
| 11 | D |
| 10 | X |
| 9 | O |
| 8 | Z |
| 7 | Blank |
| 6 | E |
| 5 | Blank |
| 4 | K |
| 3 | C |
| 2 | J |
| 1 | Y |

1. From the following explanation it is clear that sum of the numbers against which letters $Z$ and $K$ are written is $8+4=12$.

Hence option B is correct.
2. From the following explanation it is clear that 7 is the odd one out here, as against 7 no letter is written whereas rest of the numbers given have letters against them.

Hence option E is correct.
3. From the following explanation it is clear that 7 letters are written below $\mathrm{X}^{\prime}$.

Hence option D is correct.

## Common Explanation: ( Q. 4 to 7)

## Reference:

Eight persons - Babu, Tara, Mony, Gopi, Radhe, Rinky, Daya and Piku, were born in the different months July, August, September and October, not necessarily in the same order and these persons were born on either $13^{\text {th }}$ or $20^{\text {th }}$ of these months such that the male members were born on even numbered dates and the female members were born on the prime numbered dates. Each of these persons was related to Babu in the following manner - Brother, Sister, Wife, Son, Mother, Father and Daughter, again not necessarily in the same order.

## Inference:

With the help of above hints we can say all the female members were born on $13^{\text {th }}$ (prime numbered date) of and all the members were born on $20^{\text {th }}$ (even numbered date) of these months.

As it is given that one of these persons was the wife of Babu so we can say that Babu was the male member of the family.

We will keep this information in mind while solving the puzzle.

## Reference:

Babu's father was born in July.
Piku and Daya were born at a gap of 3 persons.
Babu's brother was born just after Piku.
Daya was not the first to be born.

## Inference:

As we know that all the male members were born on $20^{\text {th }}$ of the months so we can say that Babu's father and brother were born on $20^{\text {th }}$ of these months.

Here, we have two possible scenarios in which above hints can be used accordingly.

## Case 1:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :--- | :--- | :--- |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  | Father |
| August | $13^{\text {th }}$ | Piku |  |
|  | $20^{\text {th }}$ |  | Brother |
| September | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  |  |
|  | $13^{\text {th }}$ | Daya |  |
| $20^{\text {th }}$ |  |  |  |

## Case 2:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :--- | :--- | :--- |
| July | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  | Father |
| August | $13^{\text {th }}$ | Daya |  |
|  | $20^{\text {th }}$ |  |  |
| September | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  |  |
| October | $13^{\text {th }}$ | Piku |  |
|  | $20^{\text {th }}$ |  | Brother |

## Reference:

Mony was born after Babu's sister at a gap of 1 person.

## Inference:

After, using the above hints, we have:

## Case 1:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :--- | :--- | :---: |
| July | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  | Father |
| August | $13^{\text {th }}$ | Piku | Sister |
|  | $20^{\text {th }}$ |  | Brother |
| September | $13^{\text {th }}$ | Mony |  |
|  | $20^{\text {th }}$ |  |  |
|  | $13^{\text {th }}$ | Daya |  |
| $20^{\text {th }}$ |  |  |  |

## Case 2:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :---: | :---: | :---: |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  | Father |
| August | $13^{\text {th }}$ | Daya | Sister |
|  | $20^{\text {th }}$ |  |  |
| September | $13^{\text {th }}$ | Mony |  |
|  | $20^{\text {th }}$ |  |  |
|  | $13^{\text {th }}$ | Piku |  |
| $20^{\text {th }}$ |  | Brother |  |

## Reference:

Babu's son was born just before Babu's daughter.

## Inference:

Here, we have two possible scenarios in which above hints can be used in case 2 accordingly.

## Case 1:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :--- | :--- | :---: |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  | Father |
| August | $13^{\text {th }}$ | Piku | Sister |
|  | $20^{\text {th }}$ |  | Brother |
| September | $13^{\text {th }}$ | Mony |  |
|  | $20^{\text {th }}$ |  | Son |
|  | $13^{\text {th }}$ | Daya | Daughter |
|  | $20^{\text {th }}$ |  |  |

## Case 2-A:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :--- | :--- | :---: |
| July | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  | Father |
| August | $13^{\text {th }}$ | Daya | Sister |
|  | $20^{\text {th }}$ |  | Son |
| September | $13^{\text {th }}$ | Mony | Daughter |
|  | $20^{\text {th }}$ |  |  |
| October | $13^{\text {th }}$ | Piku |  |
|  | $20^{\text {th }}$ |  | Brother |

Case 2-B:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :---: | :---: | :---: |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ |  | Father |
| August | $13^{\text {th }}$ | Daya | Sister |
|  | $20^{\text {th }}$ |  |  |
| September | $13^{\text {th }}$ | Mony |  |
|  | $20^{\text {th }}$ |  | Son |
| October | $13^{\text {th }}$ | Piku | Daughter |
|  | $20^{\text {th }}$ |  | Brother |

## Reference:

Number of persons who were born after Rinky was twice as that of the number of persons who were born before Tara.
Neither Rinky nor Tara was the last to be born.
Radhe was either the brother or father of Babu.

## Inference:

After placing the first two hints, we can see that Radhe can neither be placed as brother nor as father of Babu, thus case 1 gets eliminated.
In Case 2A, Rinky is Babu's father, so Radhe must be his brother.
Similarly In Case 2B, Tara is Babu's father, so Radhe must be his brother.
As we have already figured out that Babu was a male member of the family and all the male members have their birthday on $20^{\text {th }}$ so we can fix the position of Babu in all of the cases.

## Case 1: [Eliminated]

| Month | Date | Person | Relation <br> with Babu |
| :---: | :--- | :--- | :---: |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ | Rinky | Father |
| August | $13^{\text {th }}$ | Piku | Sister |
|  | $20^{\text {th }}$ | Tara | Brother |
| September | $13^{\text {th }}$ | Mony |  |
|  | $20^{\text {th }}$ |  | Son |
|  | $13^{\text {th }}$ | Daya | Daughter |
| $20^{\text {th }}$ | Babu |  |  |

## Case 2-A:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :---: | :---: | :---: |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ | Rinky | Father |
| August | $13^{\text {th }}$ | Daya | Sister |
|  | $20^{\text {th }}$ | Tara | Son |
| September | $13^{\text {th }}$ | Mony | Daughter |
|  | Babu |  |  |
| October | $13^{\text {th }}$ | Piku |  |
|  | $20^{\text {th }}$ | Radhe | Brother |

Case 2-B:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :---: | :---: | :---: |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ | Tara | Father |
| August | $13^{\text {th }}$ | Daya | Sister |
|  | $20^{\text {th }}$ | Babu |  |
| September | $13^{\text {th }}$ | Mony |  |
|  | $20^{\text {th }}$ | Rinky | Son |
| October | $13^{\text {th }}$ | Piku | Daughter |
|  | $20^{\text {th }}$ | Radhe | Brother |

## Reference:

Babu and Gopi were born in consecutive months but not on consecutive turns.
Babu's mother was born either in September or October.

## Inference:

Clearly, we can see that in Case 2-A, the only date left for Gopi is 13th July, whereas Babu's birthday is on 20th September, thus the months are not consecutive, hence this case fails here.

## Case 2-A: [Eliminated]

| Month | Date | Person | Relation <br> with Babu |
| :---: | :---: | :---: | :---: |
|  | $13^{\text {th }}$ |  |  |
|  | $20^{\text {th }}$ | Rinky | Father |
| August | $13^{\text {th }}$ | Daya | Sister |
|  | $20^{\text {th }}$ | Tara | Son |
| September | $13^{\text {th }}$ | Mony | Daughter |
|  | Babu |  |  |
| October | $13^{\text {th }}$ | Piku |  |
|  | $20^{\text {th }}$ | Radhe | Brother |

## Case 2-B:

The only place left for Gopi is 13th July and Babu has his birthday on 20th August i.e. in consecutive months. As only females have their birthday on prime numbered dated and Babu's mother's birthday is in September, thus Gopi is Babu's wife and Mony is Babu's mother.

| Month | Date | Person | Relation <br> with Babu |
| :---: | :---: | :---: | :---: |
|  | $13^{\text {th }}$ | Gopi | Wife |
|  | $20^{\text {th }}$ | Tara | Father |
| August | $13^{\text {th }}$ | Daya | Sister |
|  | $20^{\text {th }}$ | Babu |  |
| September | $1^{\text {th }}$ | Mony | Mother |
|  | $20^{\text {th }}$ | Rinky | Son |
| October | $13^{\text {th }}$ | Piku | Daughter |
|  | $20^{\text {th }}$ | Radhe | Brother |

The blood chart of these persons can be drawn as:

4. Following the final solution, we can say that three persons were born between Babu's son and Babu's father.

Hence, the correct answer is option D.
5. Following the final solution, we can say that Rinky is the one that does not belong to the group because except Rinky all these persons belong to same generation of the family.

Hence, the correct answer is option E.
6. Following the final solution, and applying the given conditions, we have:

| Month | Date | Person | Relation <br> with Babu |
| :---: | :---: | :---: | :---: |
|  | $13^{\text {th }}$ | Babu |  |
|  | $20^{\text {th }}$ | Daya | Sister |
| August | $13^{\text {th }}$ | Gopi | Wife |
|  | $20^{\text {th }}$ | Mony | Mother |
| September | $13^{\text {th }}$ | Piku | Daughter |
|  | $20^{\text {th }}$ | Radhe | Brother |
| October | $13^{\text {th }}$ | Rinky | Son |
|  | $20^{\text {th }}$ | Tara | Father |

Here, the date and the month in which Babu's mother was born is $20^{\text {th }}$ August.
Hence, the correct answer is option D.
7. Here, the month which have even number of days is September and the one who was born in a month with even number of days but not on even numbered date was Mony. And the one who was born in the same month as Babu is Daya.

Following the final solution, we can say that Mony is the mother of Daya.

Hence, the correct answer is option E.

## Common Explanation: (Q. 8 to 10)

## References:

At most three players played their debut match before Murali Vijay, who scored third highest runs.
Only two persons played their debut match between Murali Vijay and the one who scored 71 runs.

The one who scored the second least runs is not the second junior most person.

Only one person played his debut match between Ishanth Sharma, who scored the lowest runs and the one who scored 71 runs.

Ishanth Sharma is junior to the one who scored 71 runs.
The one who scored the lowest runs is not the junior most person.

## Inferences:

From above statements,
Maximum 3 players played their debut match before Murali Vijay (they may either 0 or 1 or 2 or 3 players)

So we get 4 possibilities as shown below.

Murali Vijay scored 167 runs (3 ${ }^{\text {rd }}$ highest score)
The one who scored 71 run ( $2^{\text {nd }}$ least score)did not play his debut match in 2017 (2 $2^{\text {nd }}$ junior most person, reference point 3)

Ishanth Sharma scored 31 runs (lowest among given) and he not played his debut match in 2018 [Case-3 eliminated as it violates this condition] (reference point $4 \& 6$ )

By using all above information, we get the initial table (total 4 cases, 1 eliminated) as follows,

| Case-1 |  |  | Case-2 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Player | Highest <br> score | Year | Player | Highest <br> score |
| 2002 | Murali Vijay | 167 | 2002 |  |  |
| 2004 |  |  | 2004 | Murali Vijay | 167 |
| 2007 |  |  | 2007 |  |  |
| 2008 |  | 71 | 2008 |  |  |
| 2010 |  |  | 2010 |  | 71 |
| 2011 | Ishanth Sharma | 31 | 2011 |  |  |
| 2017 |  |  | 2017 | Ishanth Sharma | 31 |
| 2018 |  |  | 2018 |  |  |


| Case-3 [Eliminated]-Lowest score (31 <br> runs) not scored by Junior most <br> persons | Case-4 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Player | Highest <br> score | Year | Player | Highest <br> score |
| 2002 |  |  | 2002 |  | 71 |
| 2004 |  |  | 2004 |  |  |
| 2007 | Murali Vijay | 167 | 2007 | Ishanth Sharma | 31 |
| 2008 |  |  | 2008 | Murali Vijay | 167 |
| 2010 |  |  | 2010 |  |  |
| 2011 |  | 71 | 2011 |  |  |
| 2017 |  |  | 2017 |  | 71 |
| 2018 | Ishanth Sharma | 31 | 2018 |  |  |

## References:

At most two persons played their debut match after Virat Kohli, who scored the highest runs.
The one who scored the highest runs is not the junior most person.
Only one person played his debut match between Virat Kohli and the one who scored 134 runs.
The one who scored 134 runs did not play his debut match in 2008.

Only one person played his debut match between Cheteshwar Pujara and Hardik Pandya, who is junior to Virat Kohli.

Inferences:
From above statements,

Maximum 2 players played their debut match after Virat Kohli.

Virat Kohli scored 243 runs (highest among given) and Virat Kohli not played his debut match in 2018 (reference point $1 \& 2$ ) [Only possibility for Case $1 \& 2$ and two possibilities for Case-4]

With respect to last reference point, Case-1 \& 2 gets eliminated a there is no place for Cheteshwar Pujara.

Case 4: Cheteshwar Pujara and Hardik Pandya played their debut match in 2010 and 2017 respectively (only possibility as per $5^{\text {th }}$ reference point)

Case 4-A: Cheteshwar Pujara and Hardik Pandya played their debut match in 2011 and 2018 respectively (only possibility as per $5^{\text {th }}$ reference point)

Based on the other statements, we get the following table as shown,

| Case-1 [Eliminated] <br> No place for Cheteshwar Pujara |  | Case-2 [Eliminated] <br> No place for Cheteshwar Pujara |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Player | Highest <br> score | Year | Player | Highest <br> score |
| 2002 | Murali Vijay | 167 | 2002 |  |  |
| 2004 |  |  | 2004 | Murali Vijay | 167 |
| 2007 |  |  | 2007 |  |  |
| 2008 |  | 71 | 2008 |  | 134 |
| 2010 |  | 134 | 2010 |  | 71 |
| 2011 | Ishanth Sharma | 31 | 2011 | Virat Kohli | 243 |
| 2017 | Virat Kohli | 243 | 2017 | Ishanth Sharma | 31 |
| 2018 | Hardik Pandya |  | 2018 | Hardik Pandya | 134 |


| Case-4 |  |  | Case-4-A |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Player | Highest <br> score | Year | Player | Highest <br> score |
| 2002 |  | 71 | 2002 |  | 71 |
| 2004 |  |  | 2004 |  |  |
| 2007 | Ishanth Sharma | 31 | 2007 | Ishanth Sharma | 31 |
| 2008 | Murali Vijay | 167 | 2008 | Murali Vijay | 167 |
| 2010 | Cheteshwar Pujara |  | 2010 |  | 134 |
| 2011 | Virat Kohli | 243 | 2011 | Cheteshwar Pujara |  |
| 2017 | Hardik Pandya |  | 2017 | Virat Kohli | 243 |
| 2018 |  | 134 | 2018 | Hardik Pandya |  |

## References

Dinesh Karthik neither scored 71 runs nor 134 runs.

Parthiv Patel is senior to Prithvi Shaw.

The one who scored 206 runs is senior to the one who scored 108 runs but junior to the one who scored 129
runs and none of them is the junior most person.

## Inferences

From above statements,
Dinesh Karthik played his debut match in 2004 (both cases) [Only possibility as per $1^{\text {st }}$ reference point]
Case-4: Parthiv Patel and Prithvi Shaw played his debut match in 2002 and 2018 respectively (only possibility) and in Case-4-A: Parthiv Patel and Prithvi Shaw played his debut match in 2002 and 2010 respectively (only possibility)

Based on the last reference point,

The one who scored 129 runs is senior to the one who scored 206 runs and the one who scored 206 runs is senior to the one who scored 108 runs [ Note: Among three persons, no one played their match in 2018]. With this condition Case-4-A gets eliminated as it violates the given statement.

In Case-4, Dinesh Karthik, Cheteshwar Pujara and Prithvi Shaw scored 129 runs, 206 runs and 108 runs respectively (only possibility). Thus we get the completed table as shown below.

| Case-4 |  |  | Case-4-A-[Eliminated]-Among 129, 206 <br> and 108 (no one is junior most) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Player | Highest <br> score | Year | Player | Highest <br> score |
| 2002 | Parthiv Patel | 71 | 2002 | Parthiv Patel | 71 |
| 2004 | Dinesh Karthik | 129 | 2004 | Dinesh Karthik | 129 |
| 2007 | Ishanth Sharma | 31 | 2007 | Ishanth Sharma | 31 |
| 2008 | Murali Vijay | 167 | 2008 | Murali Vijay | 167 |
| 2010 | Cheteshwar Pujara | 206 | 2010 | Prithvi Shaw | 134 |
| 2011 | Virat Kohli | 243 | 2011 | Cheteshwar Pujara | 206 |
| 2017 | Hardik Pandya | 108 | 2017 | Virat Kohli | 243 |
| 2018 | Prithvi Shaw | 134 | 2018 | Hardik Pandya | 108 |

8. Following the common explanation, we get "Dinesh Karthik-129 runs".

Hence, option D is correct.
9. Following the common explanation, we get " 314 runs".

Cheteshwar Pujara-2010-206 runs, Hardik Pandya-2017-108 runs

Sum $=206+108=314$ runs

Hence, option C is correct.
10. Following the common explanation, we get "Four".

Cheteshwar Pujara-2010-206 runs [4 players played their debut match before Cheteshwar Pujara] Hence, option B is correct.

## Common Explanation: ( Q. 11 to 14)

## Reference:

While doing a survey, a surveyor has prepared a $3 \times 4$ matrix, that contained inputs numbered from 1 to 25 except the prime numbers.
(Consider your left as left and your right as right)
Input 15 was second from the left end in row *.
12 and 10 belong to column $Z$ where 12 was above 10 and there were two inputs between them.
The left most value of row $\&$ is 8 .

## Inference:

As per the first hint, the possible numbers for input are $-1,4,6,8,10,12,14,15,16,18,20,21,22,24$ and 25.

|  | X | Y | Z |
| :---: | ---: | ---: | ---: |
| $@$ |  |  | 12 |
| $\&$ | 8 |  |  |
| $*$ |  | 15 |  |
| $\#$ |  |  | 10 |

## Reference:

The sum of the inputs of column Z is 50 .

## Inference:

In order to obtain the sum of column $Z$ as 50 , the possible combinations for $\& Z$ and *Z would be $(6,22)$ and $(4,24)$.

Thus we will consider both the pairs as Case 1 and Case 2.

## Case1

|  | $X$ | $Y$ | $Z$ |
| :---: | :---: | :---: | :---: |
| $@$ |  |  | 12 |
| $\&$ | 8 |  | $6 / 22$ |
| $*$ |  | 15 | $22 / 6$ |
| $\#$ |  |  | 10 |

## Case 2

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ |  |  | 12 |
| $\&$ | 8 |  | $4 / 24$ |
| $*$ |  | 15 | $24 / 4$ |
| $\#$ |  |  | 10 |

## Reference:

4 and 9 are the consecutive inputs of either row @ or row \# where 9 is to the left of 4.
The sum of row @ is 25 .
The column immediate left to 6 is left blank.
24 was immediate left of 14.
20 was at the extreme left end.

## Inference:

Case1:
If 4 and 9 are placed at row @
As column to the immediate left of 6 is blank thus 6 is the value of $\& Z$ in both the cases.
Here we can see the sum of row @ is 25 . Thus it fulfills the second hint.

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 9 | 4 | 12 |
| $\&$ | 8 | - | 6 |
| $*$ | 20 | 15 | 22 |
| $\#$ | 24 | 14 | 10 |

## Case1A:

If 4 and 9 are placed at row \#
Here we can see the sum of row @ is not 25 . Thus it does not fulfill the second hint.
Case 1A eliminates here.

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 24 | 14 | 12 |
| $\&$ | 8 | - | 6 |
| $*$ | 20 | 15 | 22 |
| $\#$ | 9 | 4 | 10 |

## Case 2:

This case fails, as no two inputs can have same value and as per the first hint 4 must belong to either of the rows @ or \#.

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ |  |  | 12 |
| $\&$ | 8 | 9 | $4 / 24$ |
| $*$ |  | 15 | $24 / 4$ |
| $\#$ |  |  | 10 |

11. Chart $A=@ Z \& X * Z \#$

Numeric representation-1282214, here all the values are even, thus condition I will apply.
Sum of the second largest and second smallest value $=14+12 \Rightarrow 26$
Thus table J will get referred.
Hence option A is correct.

## Final Matrix:

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 9 | 4 | 12 |
| $\&$ | 8 | - | 6 |
| $*$ | 20 | 15 | 22 |
| $\#$ | 24 | 14 | 10 |

12. For option A - @ $\& Y^{*} Y \# Z$

Numeric representation- 415 10, Here one of the values is blank, thus observation will be 24, which will make table J refer.

For option B - \& X \# @ Y \&Z
Numeric representation- 81046 , here condition III will apply, thus sum is $0+10+0+0=10$, which will make table J refer.

For option C-@X \#X *Y @Z
Numeric representation-9 241512 , here one of the values is a perfect square (9) and odd as well, thus only condition III will apply.

Sum of the numbers that have double digit $=0+24+15+12 \Rightarrow 51$

Thus table L will get referred.

Hence option C is correct.
Final Matrix:

|  | $X$ | $Y$ | $Z$ |
| :---: | :---: | :---: | :---: |
| $@$ | 9 | 4 | 12 |
| $\&$ | 8 | - | 6 |
| $*$ | 20 | 15 | 22 |
| $\#$ | 24 | 14 | 10 |

13. Chart $B=\& X \& Y Z \# X$

Numeric representation-81024, here one of the values is blank, thus only condition IV will apply.
hus sum of the input $=24$
Thus table J will get referred.
Hence option A is correct.
Final Matrix:

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 9 | 4 | 12 |
| $\&$ | 8 | - | 6 |
| $*$ | 20 | 15 | 22 |
| $\#$ | 24 | 14 | 10 |

## 14. Chart $A=@ Z$ * $Y$ @ \#X

Numeric representation-12 154 24, here one of the values is a perfect square, thus condition III will apply.
Sum $-12+15+0+24 \Rightarrow 51$

Chart $B=\& X * Z \& Y @ X$

Numeric representation- 8229 , here one of the values is blank, thus only condition IV will apply, thus sum is 24 .

Chart A + Chart $B=51+24 \Rightarrow 75$

Thus table L will get referred.

Hence option D is correct.

Final Matrix:

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 9 | 4 | 12 |
| $\&$ | 8 | - | 6 |
| $*$ | 20 | 15 | 22 |
| $\#$ | 24 | 14 | 10 |

## Common Explanation: ( Q. 15 to 17)

## Reference:

- F's position from the top of the stack was equal to D's position from the bottom of the stack. F was somewhere above D.
- C was above $D$ with a gap of 6 balls in between them.
- The ball with value 2 was below $F$ with a gap of 8 balls in between them.
- The number on $E$ was thrice as that of the number on $B$.
- The ball kept 6th from the top initially, had the least value.


## Inference:

Following table can be drawn with the above hints:

| Balls | Case1 | Case2 | Case3 | Case4 |
| :---: | :---: | :---: | :---: | :---: |
|  | Value | Value | Value | Value |
| 14 | F |  |  |  |
| 13 |  | F |  |  |
| 12 |  |  | F | C |
| 11 |  |  |  |  |
| 10 |  |  | C | F |
| 9 | 1 | C,1 | 1 | 1 |
| 8 | C |  |  |  |
| 7 |  |  |  |  |
| 6 |  |  |  |  |
| 5 | 2 |  |  | D |
| 4 |  | 2 |  |  |
| 3 |  |  | $\mathrm{D}, 2$ |  |
| 2 |  | D |  |  |
| 1 | D |  |  | 2 |

## Reference:

- The number on E was thrice as that of the number on B .
- B was above $E$ with a gap of 2 balls in between them
- A and C were kept at a gap of 1 ball.


## Inference:

With reference to the first hint, there could be two possible combinations for Ball E and B which are $-6,2$ and 3,1.

| Balls | Case1 | Case <br> 1 A | Case <br> 1 B | Case2 | Case <br> 2 A | Case3 | Case4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Value | Value | Value | Value | Value | Value | Value |
| 14 | F | F | F |  |  |  | A |
| 13 |  |  |  | F | F |  |  |
| 12 |  |  |  |  |  | F | C |
| 11 |  |  |  |  | A |  |  |
| 10 | A | A |  |  |  | C | F |
| 9 | $\mathrm{~B}, 1$ | 1 | 1 | $\mathrm{C}, 1$ | $\mathrm{C}, 1$ | $\mathrm{~B}, 1$ | $\mathrm{~B}, 1$ |
| 8 | C | C | C |  |  | A |  |
| 7 |  |  |  | A |  |  |  |
| 6 | $\mathrm{E}, 3$ |  | A |  |  | $\mathrm{E}, 3$ | $\mathrm{E}, 3$ |
| 5 | 2 | $\mathrm{~B}, 2$ | $\mathrm{~B}, 2$ |  |  |  | D |
| 4 |  |  |  | $\mathrm{~B}, 2$ | $\mathrm{~B}, 2$ |  |  |
| 3 |  |  |  |  |  | $\mathrm{D}, 2$ |  |
| 2 |  | $\mathrm{E}, 6$ | $\mathrm{E}, 6$ | D | D |  |  |
| 1 | D | D | D | $\mathrm{E}, 6$ | $\mathrm{E}, 6$ |  | 2 |

## Reference:

- Number of balls below $B$ was equal to the number of balls above $A$.
- Ball A had a value 2 more than that on ball $F$.


## Inference:

| Balls | Case1 <br> Eliminated | Case <br> 1 A | Case 1B <br> Eliminated | Case2 <br> Eliminated | Case <br> 2 A | Case3 <br> Eliminated | Case4 <br> Eliminated |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Value | Value | Value | Value | Value | Value | Value |
| 14 | F | F | F |  |  |  | A |
| 13 |  |  |  | F | F |  |  |
| 12 |  |  |  |  |  | F | C |
| 11 |  |  |  |  | A |  |  |
| 10 | A | A |  |  |  | C | F |
| 9 | $\mathrm{~B}, 1$ | 1 | 1 | $\mathrm{C}, 1$ | $\mathrm{C}, 1$ | $\mathrm{~B}, 1$ | $\mathrm{~B}, 1$ |
| 8 | C | C | C |  |  | A |  |
| 7 |  |  |  | A |  |  |  |
| 6 | $\mathrm{E}, 3$ |  | A |  |  | $\mathrm{E}, 3$ | $\mathrm{E}, 3$ |
| 5 | 2 | $\mathrm{~B}, 2$ | $\mathrm{~B}, 2$ |  |  |  | D |
| 4 |  |  |  | $\mathrm{~B}, 2$ | $\mathrm{~B}, 2$ |  |  |
| 3 |  |  |  |  |  | $\mathrm{D}, 2$ |  |
| 2 |  | E,6 | E,6 | D | D |  |  |
| 1 | D | D | D | $\mathrm{E}, 6$ | $\mathrm{E}, 6$ |  | 2 |

Thus we are left with 2 cases only which are Case 1 A and 2A and in both of these cases Value on ball is B,2 and kept at stack number 5 in Case1A and stack number 4 in Case 2A.

The possible numbers for Ball $A$ and $F$ are 5 and 3 respectively with reference to hint number 2 . The left out number 4 must be printed along with D .

But In Case 1A, we can observe that Balls kept in $8^{\text {th }}$ and $9^{\text {th }}$ stack have only one letter and one number which violates the basic condition, thus Case 1A fails here.

| Balls | Case 1A <br> Eliminated | Case <br> 2A |
| :---: | :---: | :---: |
|  | Value | Value |$|$| 14 | $\mathrm{~F}, 3$ |  |
| :---: | :---: | :---: |
| 13 |  | $\mathrm{~F}, 3$ |
| 12 |  |  |
| 11 |  | $\mathrm{~A}, 5$ |
| 10 | $\mathrm{~A}, 5$ |  |
| 9 | 1 | $\mathrm{C}, 1$ |
| 8 | C |  |
| 7 |  |  |
| 6 |  |  |
| 5 | $\mathrm{~B}, 2$ |  |
| 4 |  | $\mathrm{~B}, 2$ |
| 3 |  |  |
| 2 | $\mathrm{E}, 6$ | $\mathrm{D}, 4$ |
| 1 | $\mathrm{D}, 4$ | $\mathrm{E}, 6$ |

## Reference:

The rules related to the rearrangement are as follows:

- The ball with number 1: Swap positions with the ball 7 positions above, if not possible, swap positions with the ball kept 2 positions below
- The ball with number 2: Swap positions with the ball having number 5
- The ball with number 3: Swap positions with the ball 6 places above, if not possible; ball remains at the original place
- Rearrangement will take place as per the ascending order of the numbers printed on the balls.


## Inference:

Now we will change the position of Balls as per the given rules.

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| Balls | Old position | New position |
| :---: | :---: | :---: |
|  | Value | Value |
| 14 |  |  |
| 13 | F,3 | F,3 |
| 12 |  |  |
| 11 | A,5 | B,2 |
| 10 |  |  |
| 9 | C,1 |  |
| 8 |  |  |
| 7 |  | C,1 |
| 6 |  |  |
| 5 |  |  |
| 4 | B, 2 | A,5 |
| 3 |  |  |
| 2 | D,4 |  |
| 1 | E,6 |  |

## Reference:

- The ball with number 4: Swap positions with the ball with number 1 on it
- The ball with number 5: Remains at the latest place
- The ball with number 6: Swap positions with the ball kept one place above, if not possible, Swap positions with the ball kept 1 place down
- Rearrangement will take place as per the ascending order of the numbers printed on the balls.


## Inference:

Now we will change the position of Balls as per the given rules.
Here Ball C, 1 is at stack number 7 and Ball D, 4 is at stack number 2, thus their positions will be swapped as per first hint.

The latest position of $A, 5$ is stack number 4 , thus it will remain as it is.

As per second last hint, position of $C$ and $E$ will swap.

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| Balls | Old position | New position |
| :---: | :---: | :---: |
|  | Value | Value |
| 14 |  |  |
| 13 | F,3 | F,3 |
| 12 |  |  |
| 11 | A,5 | B,2 |
| 10 |  |  |
| 9 | C,1 |  |
| 8 |  |  |
| 7 |  | D,4 |
| 6 |  |  |
| 5 |  |  |
| 4 | B, 2 | A,5 |
| 3 |  |  |
| 2 | D,4 | E,6 |
| 1 | E,6 | C,1 |

15. From the following explanation it is clear that the ball placed at the lowest stack has value $C$ and 1 printed on it.

Hence option D is correct.
16. From the following explanation it is clear that the difference of the new and old position of Ball with letter A is 7. i.e. (11-4)

Hence option B is correct.
17. From the following explanation it is clear that the ball kept at stack number 13 will remain unchanged even after rearrangement.

Hence option C is correct.

## Common Explanation: ( Q. 18 to 21)

## Reference:

These packages are stacked one above the another in the godown and are exported from the top, from location Agra and upon arrival, are stacked one over the other, as and when they arrived, at location Delhi. Russia's package arrived first because of express delivery.
Russia's package was not among the first three to be exported.
Reebok's package was the last to arrive.
One of the places was UK for which the package was exported at second place.

Due to the express shipment policy of Red chief, it exported the package first and was in the first two to arrive at Delhi.

## Inference:

From the first hint it is clear that the package placed at the topmost position in godown will be shipped first and that of at the bottommost position will be exported in the last. Thus it will follow top to bottom order. At the arriving location- Delhi, reverse of the above will happen. The package that will arrive first will be sent first and the package that will arrive in the last will be sent in the last. Thus it will follow bottom to top order. From the given hints following table can be drawn.
Note- Here Red chief cannot be the first to arrive at Delhi, because in that case It would have exported to Russia, but as per third hint, Russia's package can't be in the top three exporting packages.

| Exporting <br> Location- Agra <br> (Top to Bottom) | Hints | Arriving Location- <br> Delhi <br> (Bottom to Top) | Hints |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |

## Reference:

There are exactly two packages at Agra between the package which arrived for Japan and the package which was exported immediately after Red chief, from Agra.

There are exactly two packages at Agra between the package which arrived for Russia and the package exported by Lancer.

Lancer neither exported last nor for South Africa.

## Inference:

From the first hint, we can place Japan below UK at a gap of two places.
With reference to second and third hint two cases arise.

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| Case1 - When package for Russia exported last |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Exporting <br> Location- Agra <br> (Top to Bottom) | Hints | Arriving Location- <br> Delhi <br> (Bottom to Top) | Hints |  |  |
| Company |  |  |  | Reebok |  |
| Red chief |  | RK | Russia |  |  |
|  |  | Russia |  |  |  |
|  |  | South <br> Africa |  |  |  |
| Lancer |  |  | Red chief |  |  |
|  | Japan |  |  |  |  |
|  |  | Russia | tancef |  | Russia |


| Case2 - When package for Russia exported second |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| last |  |  |  |  |  |

## Reference:

The package exported for South Africa was above the package exported by Bata.

The package to Italy was exported after Lakhani exported its package.
Action exported the package immediately after Bata to Australia which was not in the last 2 to be exported but in the last 2 to arrive at Delhi.

## Inference:

Thus, the package to Italy was exported just after Japan and Lakhani exported its package to Japan.

| Case1 - When package for Russia exported last |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Exporting <br> Location- Agra <br> (Top to Bottom) |  | Hints | $\begin{array}{\|c\|} \hline \text { Arriving Location- } \\ \text { Delhi } \\ \text { (Bottom to Top) } \\ \hline \end{array}$ |  | Hints |
| Company | Country |  | Company | Country |  |
| Red chief |  | Russia | Reebok |  |  |
| Bata | UK | Russia | Action | Australia |  |
| Action | Australia | Russia |  |  |  |
| Lancer |  | South Africa |  |  |  |
| Lakhani | Japan |  |  |  |  |
|  | Italy | Australia | Red chief |  |  |
|  | Russia | tancer, Australia |  | Russia |  |


| Case2 - When package for Russia exported second last [Eliminated as no place to locate Australia in exporting location] |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Exporting Location- Agra (Top to Bottom) |  | Hints | Arriving Location- Delhi (Bottom to Top) |  | Hints |
| Company | Country |  | Company | Country |  |
| Red chief |  | Russia | Reebok |  |  |
|  | UK | Russia |  |  | F |
| Lancer |  |  | -ㅏㅏ |  |  |
|  |  |  |  |  |  |
|  | Japan |  |  |  |  |
|  | Russia | Australia | Red chief |  |  |
|  |  | tancer, Australia |  | Russia |  |

## Reference:

The package exported by Bata, which is not for USA, is kept exactly between the package to be exported by Action and the package exported for South Africa, which at Delhi, is in the bottom three.
Campus's package was not in the last three upon arrival.
Australia's package arrived exactly before one of the packages which was in the bottom three when exported.

## Inference:

Thus, South Africa was exported by Red chief foremost and arrived at second place in Delhi.
With the last hint, the last three exported packages are for countries Russia, Italy and Japan, out of which Japan's package is exported by Lakhani.
Out of remaining two Russia and Italy, Russia is ruled out because Russia's package has already been arrived at first.
Thus Reebok package must be exporting to Italy.

Thus, the lastly left company i.e. Campus must have exported its package in the last. And the only left country i.e. USA is the one where Lancer is exporting its package.

| Case1 - When package for Russia exported last |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Exporting Location- Agra (Top to Bottom) |  | Hints | Arriving Location- Delhi (Bottom to Top) |  | Hints |
| Company | Country |  | Company | Country |  |
| Red chief | South Africa | Russia | Reebok | Italy | Campus |
| Bata | UK | Russia | Action | Australia | Campus |
| Action | Australia | Russia |  |  | Campus |
| Lancer | USA | South <br> Africa |  |  |  |
| Lakhani | Japan |  |  |  |  |
| Reebok | Italy | Australia | Red chief | South <br> Africa |  |
| Campus | Russia | tancer, Australia | Campus | Russia |  |

## Reference:

The USA's package was among the top three arrivals at Delhi.
Bata's package was among the last three packages that arrived at Delhi.

## Inference:

| Case1 - When package for Russia exported last |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Exporting <br> Location- Agra <br> (Top to Bottom) | Hints | Arriving Location- <br> Delhi <br> (Bottom to Top) | Hints |  |
|  |  | Country |  |  |

Therefore the only left Lakhani's package can be fourth last at Delhi.

| Case1 - When package for Russia exported last |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Exporting <br> Location- Agra <br> (Top to Bottom) | Hints | Arriving Location- <br> Delhi <br> (Bottom to Top) | Hints |  |  |
| Company |  |  |  | Country |  |
| Red chief | South <br> Africa | Russia | Reebok | Italy | Campus |
| Bata | UK | Russia | Action | Australia | Campus |
| Action | Australia | Russia | Bata | UK | Campus |
| Lancer | USA | South <br> Africa | Lakhani | Japan |  |
| Lakhani | Japan |  | Lancer | USA |  |
| Reebok | Italy | Australia | Red chief | South <br> Africa |  |
| Campus | Russia | tancer, <br> Australia | Campus | Russia |  |

18. From the following explanation it is clear that three packages arrived after the package exported by Lakhani.

Hence option B is correct.
19. From the following explanation it is clear that if the package to South Africa was delivered wrong then Red chief will be held liable.

Hence option C is correct.
20. From the following explanation it is clear that Action and Lakhani exported their packages at third and fifth place respectively.

Hence option A is correct.
21. From the following explanation it is clear that Reebok exported its package to Italy.

Hence option D is correct.
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## Common Explanation: ( Q. 22 to 25)

## Reference:

- The singer visited the office at 3 PM.
- The singer's slot number was 3 more than that of C's slot number.
- Each professional had the visit to the Producers' office at different time slots. Each visit was of 1 hour and no 2 professionals had the same slot for visit.
- The slots were continuous, for example the slots can be 1PM-2PM, 2PM-3PM, 3PM-4PM (not necessarily the actual slots) and so on.
- The slots were numbered 1-6 as per their sequence i.e. the $1^{\text {st }}$ slot was numbered 1 and so on.


## Inference:

With reference to the last three hints we can allot the numbers and timings to the slots with the help of given timing i.e. 3PM.
As per the second hint, we can estimate C's slot number and timing.

| Case1 - If singer's slot number is 4 |  |  |  |
| :---: | :---: | :---: | :---: |
| Slot Number | Time slot | Person | Profession |
| 1 | 12 PM - 1PM | C |  |
| 2 | 1 PM - 2PM |  |  |
| 3 | 2 PM - 3PM |  |  |
| 4 | $3 P M-4 P M$ |  | Singer |
| 5 | $4 P M-5 P M$ |  |  |
| 6 | $5 P M-6 P M$ |  |  |


| Case2- if singer's slot number is 5 |  |  |  |
| :---: | :---: | :---: | :---: |
| Slot Number | Time slot | Person | Profession |
| 1 | $11 \mathrm{AM}-12 \mathrm{PM}$ |  |  |
| 2 | $12 \mathrm{PM}-1 \mathrm{PM}$ | C |  |
| 3 | $1 \mathrm{PM}-2 \mathrm{PM}$ |  |  |
| 4 | $2 \mathrm{PM}-3 \mathrm{PM}$ |  |  |
| 5 | $3 P M-4$ PM |  | Singer |
| 6 | $4 \mathrm{PM}-5 \mathrm{PM}$ |  |  |


| Case3- if singer's slot number is 6 |  |  |  |
| :---: | :---: | :---: | :---: |
| Slot Number | Time slot | Person | Profession |
| 1 | 10AM - 11AM |  |  |
| 2 | 11 AM - 12PM |  |  |
| 3 | 12 PM - 1PM | C |  |
| 4 | 1 PM - 2PM |  |  |
| 5 | $2 P M-3 P M$ |  |  |
| 6 | $3 P M-4$ PM |  | Singer |

## Reference:

- B's slot number was twice as that of the slot number of the editor.
- The editor and choreographer had consecutive slots.
- C and director had consecutive slots.


## Inference:

The maximum number of slots is 6 .
Thus as per the first hint the possible combinations for $B$ and editor are $(2,1),(4,2)$ and $(6,3)$ respectively. Let us see these combinations in the light of three cases mentioned below.

| Case1 - If singer's slot number is 4 |  |  | Case1A |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession | Person | Profession |
| 1 | 12PM - 1PM | C | Editor | C |  |
| 2 | $1 P M-2 P M$ |  |  |  | Director |
| 3 | $2 P M-3 P M$ | B |  |  | Editor |
| 4 | $3 P M-4 P M$ |  | Singer |  | Singer |
| 5 | $4 P M-5 P M$ |  |  |  |  |
| 6 | $5 P M-6 P M$ |  |  | B |  |


| Case2- if singer's slot number is 5 |  |  |  | Case2A |  | Case2B |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession | Person | Profession | Person | Profession |
| 1 | $11 \mathrm{AM}-$ <br> 12 PM |  | Editor |  | Director/ |  | Director |
| 2 | $12 \mathrm{PM}-1 \mathrm{PM}$ | C |  | C | Editor | C |  |
| 3 | 1 PM - 2PM | B | Director |  | Director/ |  | Editor |
| 4 | $2 P M-3 P M$ |  |  | B |  |  |  |
| 5 | $3 P M-4$ PM |  | Singer |  | Singer |  | Singer |
| 6 | $4 P M-5 P M$ |  |  |  |  | B |  |

In Case 3, B's slot number cannot be 3, because it is already occupied by $C$.

| Case3- if singer's slot number is 6 |  |  |  | Case3A |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession | Person | Profession |
| 1 | 10AM - 11AM |  |  |  |  |
| 2 | 11AM - 12PM |  | Editor |  | Director/ |
| 3 | 12 PM - 1PM | C |  | C | Editor |
| 4 | 1PM - 2PM | B | Director |  | Director/ |
| 5 | 2PM - 3PM |  |  |  |  |
| 6 | $3 P M-4$ PM |  | Singer | B | Singer |

## Reference:

- There were 2 visits between A's and F's visit.
- A's visit was made just after the visit of the music director.


## Inference:

| Case1 - If singer's slot number is 4 <br> [Eliminated] Hint no. $\mathbf{1}$ and $\mathbf{2}$ violated |  |  |  | Case1A |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession | Person | Profession |
| 1 | $12 \mathrm{PM}-1 \mathrm{PM}$ | C | Editor | C | Music <br> director |
| 2 | $1 \mathrm{PM}-2 \mathrm{PM}$ |  |  | A | Director |
| 3 | $2 \mathrm{PM}-3 \mathrm{PM}$ | B |  |  | Editor |
| 4 | $3 \mathrm{PM}-4 \mathrm{PM}$ |  | Singer |  | Singer |
| 5 | $4 \mathrm{PM}-5 \mathrm{PM}$ |  |  | F |  |
| 6 | $5 P M-6 \mathrm{PM}$ |  |  | B |  |

## Case 1,2, 2A and 2B fail.

| Case2- if singer's slot number is 5 <br> [Eliminated] Hint no. 1 and 2 violated |  | Case2A <br> Eliminated] <br> violated no. 1 and 2 | Climinated] Hint no. 1 and 2 <br> violated |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession | Person | Profession | Person | Profession |
| 1 | 11 AM -12PM |  | Editor |  | Director/ |  | Director |
| 2 | 12 PM -1PM | C |  | C | Editor | C |  |
| 3 | 1 PM -2PM | B | Director |  | Director/ |  | Editor |
| 4 | $2 P M-3 P M$ |  |  | B |  |  |  |
| 5 | $3 P M-4 P M$ |  | Singer |  | Singer |  | Singer |
| 6 | $4 P M-5 P M$ |  |  |  |  | B |  |

Case 3A breaks into one more case namely Case 3B.

| Case3- if singer's slot number is 6 |  |  |  | Case3A |  | Case 3B |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession | Person | Profession | Person | Profession |
| 1 | 10AM - 11AM |  | Music director |  | Music director |  |  |
| 2 | 11AM - 12PM | A | Editor | A | Director/ | F | Director |
| 3 | 12PM - 1PM | C |  | C | Editor | C | Editor |
| 4 | 1PM - 2PM | B | Director |  | Director/ |  | Music director |
| 5 | 2PM - 3PM | F |  | F |  | A |  |
| 6 | $3 P M-4$ PM |  | Singer | B | Singer | B | Singer |

## Reference:

- The actor visited the office just before D .
- D and $E$ did not have consecutive slots.


## Inference:

| Case1 A <br> [Eliminated] D and E have consecutive <br> slots |  |  |  |
| :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession |
| 1 | $12 \mathrm{PM}-1 \mathrm{PM}$ | C | Music <br> director |
| 2 | $1 \mathrm{PM}-2 \mathrm{PM}$ | A | Director |
| 3 | $2 \mathrm{PM}-3 \mathrm{PM}$ |  | Editor |
| 4 | $3 \mathrm{PM}-4 \mathrm{PM}$ |  | Singer |
| 5 | $4 \mathrm{PM}-5 \mathrm{PM}$ | F |  |
| 6 | $5 \mathrm{PM}-6 \mathrm{PM}$ | B |  |


| Case3- if singer's slot number is 6 |  |  | Case3A <br> [Eliminated] First hint <br> violated |  | Case 3B <br> [Eliminated] First hint violated |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession | Person | Profession | Person | Profession |
| 1 | 10 AM - 11AM | E | Music <br> director |  | Music director |  |  |
| 2 | 11 AM - 12PM | A | Editor | A | Director/ | F | Director |
| 3 | 12 PM -1PM | C |  | C | Editor | C | Editor |
| 4 | 1 PM - 2PM | B | Director |  | Director/ |  | Music director |
| 5 | 2 PM -3PM | F | Actor | F |  | A |  |
| 6 | $3 P M-4$ PM | D | Singer | B | Singer | B | Singer |

## Final Schedule:

| Case3- if singer's slot number is 6 |  |  |  |
| :---: | :---: | :---: | :---: |
| Slot <br> Number | Time slot | Person | Profession |
| 1 | $10 \mathrm{AM}-11 \mathrm{AM}$ | E | Music director |
| 2 | $11 \mathrm{AM}-12 \mathrm{PM}$ | A | Editor |
| 3 | $12 \mathrm{PM}-1 \mathrm{PM}$ | C | Choreographer |
| 4 | $1 \mathrm{PM}-2 \mathrm{PM}$ | B | Director |
| 5 | $2 \mathrm{PM}-3 \mathrm{PM}$ | F | Actor |
| 6 | $3 P M-4$ PM | D | Singer |

22. From the following explanation it is clear that ' $D$ ' visited the producer in the last.

Hence option C is correct.
23. From the following explanation it is clear that 'Choreographer' visited immediately before the Director. Hence option B is correct.
24. From the following explanation it is clear that $E$ visited the first and in time slot 10AM-11 AM.

Hence option D is correct.
25. From the following explanation it is clear that $B$ visited the producer exactly between Editor and $D$.

Hence option A is correct.

## Common Explanation: ( Q. 26 to 29)

## References:

There are three boxes kept between the racks of box $U$, which has 12 chocolates and box $X$, which is kept in rack 1.

Rack which is immediately above box $U$ is not vacant, and box $X$ has 14 chocolates.
There are two boxes between box U and box W , which has 44 chocolates.

Box W is not in 3rd rack.

## Inferences:

From above statements,

Given that 2 racks are vacant out of 9 racks.
From reference point-1, we get 3 possibilities i.e. either 0 or 1 or 2 vacant racks between Box $U$ and Box $X$.
Also from above reference point, Box $U$ and Box $X$ has 12 and 14 chocolates respectively

Case-1: Box $X$ is placed in $1^{\text {st }}$ rack and Box $U$ is placed in $5^{\text {th }}$ rack (if no vacant racks are between Box $X$ and $W$ i.e. $2^{\text {nd }}, 3^{\text {rd }} \& 4^{\text {th }}$ rack is not vacant). There are two boxes between Box $U$ and Box W i.e. here, Box W (44 chocolates) is placed in $2^{\text {nd }}$ rack. Here $6^{\text {th }}$ rack is not vacant (immediately above box $U$ ). Note: $3^{\text {rd }}$ and $4^{\text {th }}$ racks are not vacant since two boxes are placed between Box U and Box W.

Case-1-A: Box $X$ is placed in $1^{\text {st }}$ rack and Box $U$ is placed in $5^{\text {th }}$ rack (if no vacant racks are between Box $X$ and $W$ i.e. $2^{\text {nd }}, 3^{\text {rd }} \& 4^{\text {th }}$ rack is not vacant). There are two boxes between Box $U$ and Box $W$ i.e. here, Box W (44 chocolates) is placed in either $8^{\text {th }}$ rack (if $6^{\text {th }} \& 7^{\text {th }}$ rack is not vacant) or $9^{\text {th }}$ rack (if any one of $6^{\text {th }}, 7^{\text {th }}$ or $8^{\text {th }}$ rack is vacant).

Now if we observe this case (Case-1-A), we know $2^{\text {nd }}, 3^{\text {rd }}$ and $4^{\text {th }}$ racks must be not vacant since 3 boxes are placed between Box $X$ and Box $U$. Similarly, only one vacant rack is possible between Box $U$ and Box W. So out of 9 racks, 8 racks get filled by this possibility which is not possible. Hence this case can be eliminated.

| Case-1 |  |  | Case-1-A [Eliminated] <br> Only one rack is vacant |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Racks | Box | Chocolates | Racks | Box | Chocolates |
| 9 |  |  | 9 | Box W/ | 44 |
| 8 |  |  | 8 | Box W/ | 44 |
| 7 |  |  | 7 | (not vacant) |  |
| 6 | (not vacant) |  | 6 | (not vacant) |  |
| 5 | Box U | 12 | 5 | Box U | 12 |
| 4 | (not vacant) |  | 4 | (not vacant) |  |
| 3 | (not vacant) |  | 3 | (not vacant) |  |
| 2 | Box W | 44 | 2 | (not vacant) |  |
| 1 | Box X | 14 | 1 | Box X | 14 |

Case-2: Box X is placed in $1^{\text {st }}$ rack and Box U is placed in $6^{\text {th }}$ rack (if 1 vacant rack is between Box X and W ). There are two boxes between Box $U$ and Box W i.e. here, we can't place Box W ( 44 chocolates) in $9^{\text {th }}$ rack since if we place Box $W$ in $9^{\text {th }}$ rack, then $8^{\text {th }}$ and $7^{\text {th }}$ racks must be not vacant. Also we know any one of $2^{\text {nd }}, 3^{\text {rd }}$, $4^{\text {th }}$ and $5^{\text {th }}$ rack is vacant. By this combination we get 8 racks filled which is not possible. Therefore, Box W is placed in $2^{\text {nd }}$ rack i.e. any one of $3^{\text {rd }}, 4^{\text {th }}$ or $5^{\text {th }}$ rack is vacant (Given, Box W is not placed in $3^{\text {rd }}$ rack). Here $7^{\text {th }}$ rack is not vacant (immediately above box U ).

Case-3 \& Case-3-A: Box $X$ is placed in $1^{\text {st }}$ rack and Box $U$ is placed in $7^{\text {th }}$ rack (if 2 vacant racks are between Box $X$ and W ). There are two boxes between Box $U$ and Box W i.e. here, Box W ( 44 chocolates) is placed either in $4^{\text {th }}$ rack [Case-3] (if $5^{\text {th }} \& 6^{\text {th }}$ rack is not vacant) or $2^{\text {nd }}$ rack [Case-3-A] (if any two racks of $3^{\text {rd }}, 4^{\text {th }}, 5^{\text {th }} \& 6^{\text {th }}$ racks are vacant). Note: Given, Box W is not placed in $3^{\text {rd }}$ rack. So we get two possibilities for Box W as shown below. Here $8^{\text {th }}$ rack is not vacant (immediately above box U ).

By using above information we get the following table as shown,

| Case-2 |  |  | Case-3 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Racks | Box | Chocolates | Racks | Box | Chocolates |
| 9 |  |  | 9 |  |  |
| 8 |  |  | 8 | (not vacant) |  |
| 7 | (not vacant) |  | 7 | Box U | 12 |
| 6 | Box U | 12 | 6 | (not vacant) |  |
| 5 |  |  | 5 | (not vacant) |  |
| 4 |  |  | 4 | Box W | 44 |
| 3 | BoxW |  | 3 |  |  |
| 2 | Box W | 44 | 2 |  |  |
| 1 | Box X | 14 | 1 | Box X | 14 |


| Case-3-A |  |  |
| :---: | :---: | :---: |
| Racks | Box | Chocolates |
| 9 |  |  |
| 8 | (not vacant) |  |
| 7 | Box U | 12 |
| 6 |  |  |
| 5 |  |  |
| 4 |  |  |
| 3 | BoxW |  |
| 2 | Box W | 44 |
| 1 | Box X | 14 |

## References:

Box Z and V are kept in even numbered rack, but box V is placed above box U .
The rack which is just below the rack of box $Z$, which has 13 chocolates, is vacant.

## Inferences:

From above statements,
Box $Z$ ( 13 chocolates) is placed in even numbered rack and its immediate below rack is vacant.

Box V is placed in even numbered rack above Box U .
Case-1: Here, we can't place Box $Z$ in $4^{\text {th }}$ rack, if so then $3^{\text {rd }}$ rack become vacant (by this, only two boxes are placed between Box $U$ and Box $X$ \& one box between Box $U$ and Box $W$ which is not possible).

Also, we can't place Box $Z$ in $6^{\text {th }}$ rack since $5^{\text {th }}$ rack is occupied by Box $U$ but as per condition it must be a vacant. Therefore, Box $Z$ must be placed in $8^{\text {th }}$ rack and $7^{\text {th }}$ rack becomes vacant as per condition. Now, Box $V$ is placed in $6^{\text {th }}$ rack (above Box $U$ ).

| Case-1 |  |  |
| :---: | :---: | :---: |
| Racks | Box | Chocolates |
| 9 |  |  |
| 8 | Box Z | 13 |
| 7 | Vacant |  |
| 6 | Box V |  |
| 5 | Box U | 12 |
| 4 | (not vacant) |  |
| 3 | (not vacant) |  |
| 2 | Box W | 44 |
| 1 | Box X | 14 |

Case-2: Here, Box $V$ is placed in $8^{\text {th }}$ rack (above Box $U$, only possibility). Here, we can't place Box $Z$ in $2^{\text {nd }}$ rack since $1^{\text {st }}$ rack is occupied by Box $X$ but as per condition it must be a vacant. Therefore, Box $Z$ is placed in $4^{\text {th }}$ rack and $3^{\text {rd }}$ rack becomes vacant as per condition.

Case-3: Here, Box $V$ is placed in $8^{\text {th }}$ rack (above Box $U$, only possibility). Here, we can't place Box $Z$ in $2^{\text {nd }}$ rack since $1^{\text {st }}$ rack is occupied by Box $X$ but as per condition it must be a vacant. Also, we can't place Box $Z$ in $6^{\text {th }}$ rack if so then $5^{\text {th }}$ rack becomes vacant (by this only one box is placed between Box $U$ and Box $W$ which is not possible). Therefore, there is no even numbered rack is left to place Box $Z$ and hence this case can be eliminated.

| Case-2 |  |  | Case-3 [Eliminated] <br>  <br> Its immediate below rack must be <br> vacant |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Racks | Box | Chocolates | Racks | Box | Chocolates |
| 9 |  |  | 9 |  |  |
| 8 | Box V |  | 8 | Box V |  |
| 7 | (not vacant) |  | 7 | Box U | 12 |
| 6 | Box U | 12 | 6 | (not vacant) |  |
| 5 |  |  | 5 | (not vacant) |  |
| 4 | Box Z | 13 | 4 | Box W | 44 |
| 3 | Vacant |  |  | 3 |  |
| 2 | Box W | 44 | 2 |  |  |
| 1 | Box X | 14 | 1 | Box X | 14 |

Case-3-A: Here, Box V is placed in $8^{\text {th }}$ rack (above Box $U$, only possibility). Here, we get two possibilities for Box $Z$ i.e. either it can be placed in $6^{\text {th }}$ rack (then $5^{\text {th }}$ becomes vacant) or in $4^{\text {th }}$ rack ( $3^{\text {rd }}$ becomes vacant) and it is shown below.

By using above information we get the following table as shown,

| Case-3-A [Possibility-1] |  |  | Case-3-A [Possibility-2] |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Racks | Box | Chocolates | Racks | Box | Chocolates |  |  |  |  |  |  |  |
| 9 |  |  | 9 |  |  |  |  |  |  |  |  |  |
| 8 | Box V |  | 8 | Box V |  |  |  |  |  |  |  |  |
| 7 | Box U | 12 | 7 | Box U | 12 |  |  |  |  |  |  |  |
| 6 | Box Z | 13 | 6 |  |  |  |  |  |  |  |  |  |
| 5 | Vacant |  | 5 |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  | 4 | Box Z |  | 13 |
| 3 |  |  | 3 | Vacant |  |  |  |  |  |  |  |  |
| 2 | Box W | 44 | 2 | Box W |  |  |  |  |  |  |  |  |
| 1 | Box X | 14 | 1 | 44 |  |  |  |  |  |  |  |  |

## References:

Box Y is kept below box T .

Rack which is immediately below box Y is not vacant.
There are three racks between the rack, which has 21 chocolates and 41 chocolates.

## Inferences:

From above statements,
Case-1: From table it is observed that, $3^{\text {rd }}$ and $4^{\text {th }}$ rack must be not vacant since two boxes are placed between Box $U$ and Box W. Therefore, Box T and Box Y are placed in $4^{\text {th }}$ and $3^{\text {rd }}$ rack respectively (reference point $1 \& 2$ satisfied). Now $9^{\text {th }}$ rack becomes vacant. But, there is no racks left at a gap of 3 racks to place 21 and 41 chocolates. Hence this case become invalid and it can be eliminated.

Case-2: From table it is observed that, $7^{\text {th }}$ rack is not vacant (immediate above the Box $U$ is not vacant) and $5^{\text {th }}$ rack is not vacant since two boxes are placed between Box $U$ and Box W. Therefore, Box $T$ and Box $Y$ are placed in $7^{\text {th }}$ and $5^{\text {th }}$ rack respectively (reference point $1 \& 2$ satisfied). Now $9^{\text {th }}$ rack becomes vacant. But, there is no racks left at a gap of 3 racks to place 21 and 41 chocolates. Hence this case become invalid and it can be eliminated.

| Case-1 [Eliminated] <br> Last reference point not satisfied |  |  | Case-2 [Eliminated] <br> Last reference point not satisfied |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Racks | Box | Chocolates | Racks | Box |  | Chocolates |
| 9 | Vacant |  | 9 | Vacant |  |  |
| 8 | Box Z | 13 | 8 | Box V |  |  |
| 7 | Vacant |  | 7 | Box T |  |  |
| 6 | Box V |  | 6 | Box U | 12 |  |
| 5 | Box U | 12 | 5 | BoxY |  |  |
| 4 | Box T |  | 4 | Box Z | 13 |  |
| 3 | BoxY |  | 3 | Vacant |  |  |
| 2 | Box W | 44 | 2 | Box W | 44 |  |
| 1 | Box X | 14 | 1 | Box X |  | 14 |

Case 3-A (Possibility-1): From table it is observed that, either $3^{\text {rd }}$ or $4^{\text {th }}$ rack must be vacant since two boxes are placed between Box $U$ and Box $W$. Then it is understood that, $9^{\text {th }}$ rack is not vacant and Box $T$ is placed in $9^{\text {th }}$ rack (reference point 1). Given, the rack which is immediately below Box $Y$ is not vacant. Then, Box $Y$ is placed in $3^{\text {rd }}$ rack and $4^{\text {th }}$ rack becomes vacant (reference point $1 \& 2$ satisfied). But, there is no racks left at a gap of 3 racks to place 21 and 41 chocolates. Hence this case become invalid and it can be eliminated.

Case 3-A (Possibility-2): From table it is observed that, either $5^{\text {th }}$ or $6^{\text {th }}$ rack must be vacant since two boxes are placed between Box $U$ and Box $W$. Then it is understood that, $9^{\text {th }}$ rack is not vacant and Box $T$ is placed in $9^{\text {th }}$ rack (reference point 1). Given, the rack which is immediately below Box $Y$ is not vacant. Then, Box $Y$ is placed in $5^{\text {th }}$ rack and $6^{\text {th }}$ rack becomes vacant (reference point $1 \& 2$ satisfied).

As per last reference point, either Box T or Box Y has 21 and 41 chocolates (3 racks in between). Finally, Box V has 31 chocolates. All conditions satisfied and $w$ get the completed table as shown below.

| Case-3-A [Possibility-1] [Eliminated] Last reference point not satisfied |  |  | Case-3-A [Possibility-2] |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Racks | Box | Chocolates | Racks | Box | Chocolates |
| 9 | Box T |  | 9 | Box T | 21/41 |
| 8 | Box V |  | 8 | Box V | 31 |
| 7 | Box U | 12 | 7 | Box U | 12 |
| 6 | Box Z | 13 | 6 | Vacant |  |
| 5 | Vacant |  | 5 | Box Y | 41/21 |
| 4 | Vacant |  | 4 | Box Z | 13 |
| 3 | Box Y |  | 3 | Vacant |  |
| 2 | Box W | 44 | 2 | Box W | 44 |
| 1 | Box X | 14 | 1 | Box X | 14 |

26. Following the common explanation, we get "Two vacant racks are there in between the racks of Box $U$ and Box W".

Hence, option C is correct.
27. Following the common explanation, we get "Three boxes are kept above the racks of Box Y".

Hence, option B is correct.
28. Following the common explanation, we get "Cannot be determined".

Box T is placed in 9th rack and it has either 21 or 41 chocolates

Hence, option E is correct.
29. Following the common explanation, we get "Either A or C".

Box $Y$ and Box $Z$ are placed between the two Vacant racks
Box $Y$ has either 21 or 41 chocolates

Box $Z$ has 13 chocolates
Sum is either $21+13=34$ Chocolates or $41+13=54$ Chocolates
Hence, option E is correct.

## Common Explanation: ( Q. 30 to 34)

## Reference:

- Amy's floor number is thrice of Atif's floor number.
- There are three floors between the floors of Aaru and Adwik. Adwik's floor was either just above or just below Atif's floor.
- Annie and Amy do not stand on consecutive floors.
- Annie's floor number was twice of the floor number of Aksh.


## Inference:

With reference to the first hint the possible combinations for Amy and Atif are ( 3,1 ) , $(6,2)$ and $(9,3)$. In Case1, the possible floor numbers for Annie and Aksh are 10 and 5 respectively as per the last hint. In Case2, we have no such position for Annie which is twice of Aksh's floor number. Thus it gets eliminated. In Case2A, Annie and Aksh can be placed at floor numbers 8 and 4 respectively.
In Case3, we have no such position for Annie which is twice of Aksh's floor number. Thus it gets eliminated. In Case3A, Annie and Aksh can be placed at floor numbers 2 and 1 respectively.

| Floor <br> number | Case1 | Case2 <br> [Eliminated] $]$ | Case2A | Case3 <br> [Eliminated] $]$ | Case3A |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Persons | Persons | Persons | Persons | Persons |
| 10 | Annie |  |  | Annie | Annie |
| 9 |  |  |  | Amy | Amy |
| 8 |  |  | Annie | Annie | Aaru |
| 7 |  |  | Aaru |  |  |
| 6 | Aaru | Amy | Amy | Aaru |  |
| 5 | Aksh | Aaru | Annie |  |  |
| 4 | Annie | Annie | Aksh |  | Adwik |
| 3 | Amy |  | Adwik | Atif | Atif |
| 2 | Adwik | Atif | Atif | Adwik | Annie |
| 1 | Atif | Adwik |  |  | Aksh |

## Reference:

- Atif and Ashu are standing on consecutive floors.
- Number of persons standing below Ashu is same as the number of persons standing above Anya.


## Inference:

With reference to the hint that Atif and Ashu stand at consecutive floors, Case 1 and Case 3A get eliminated.

| Floor <br> number | Case1 <br> [Eliminated] $]$ | Case2A | Case3A <br> [Eliminated] $]$ |
| :---: | :---: | :---: | :---: |
| 10 | Persons | Persons | Persons |
| 9 |  | Annie | Anya |
| 8 |  | Annie | Aaru |
| 7 |  | Aaru |  |
| 6 | Aaru | Amy |  |
| 5 | Aksh |  |  |
| 4 |  | Aksh | Adwik |
| 3 | Amy | Adwik | Atif |
| 2 | Adwik | Atif | Annie |
| 1 | Atif | Ashu | Aksh |

## Reference:

- Not more than three persons stood above Avi.


## Inference:

Thus, the maximum number of persons standing above Avi is 3 . Thus Avi stands at floor number 9 and the only left person i.e. Ayesha stands at floor number 5.

| Floor <br> number | Case2A |
| :---: | :---: |
| 10 | Anya |
| 9 | Avi |
| 8 | Annie |
| 7 | Aaru |
| 6 | Amy |
| 5 | Ayesha |
| 4 | Aksh |
| 3 | Adwik |
| 2 | Atif |
| 1 | Ashu |

Now let us calculate the numbers rolled by these persons.

## Reference:

- Ashu rolled thrice the number rolled by Annie.
- Avi rolled twice the number rolled by Aksh.
- Aksh and Annie rolled consecutive numbers.


## Inference:

We know that the maximum and minimum numbers that can be rolled in a dice are 6 and 1 respectively. Accordingly, in context of first hint, the possible combinations for Ashu and Annie are $(3,1)$ and $(6,2)$.

As per the third hint the possible numbers for Aksh are 2 and 1 or 3.
But keeping second hint in mind, we can have possible numbers for Avi also which are 4, 2 or 6 .

| Persons | Case1 | Case2 | Case2A |
| :---: | :---: | :---: | :---: |
|  | Numbers | Numbers | Numbers |
| Anya |  |  |  |
| Avi | 4 | 3 | 6 |
| Annie | 1 | 2 | 2 |
| Aaru |  |  |  |
| Amy |  |  |  |
| Ayesha |  |  |  |
| Aksh | 2 | 1 | 3 |
| Adwik |  |  |  |
| Atif |  |  |  |
| Ashu | 3 | 6 | 6 |

## Reference:

- Amy and Atif rolled the same number that is twice of what was rolled by Ashu.
- Anya and Aaru rolled numbers that have a difference of 4.
- Ayesha rolled the number which is twice of Adwik and Aksh.
- Not more than 2 persons rolled the same number.
- Anya's final position was somewhere below Aaru's.


## Inference:

With the third hint it is clear that Adwik rolled the same number as Aksh.
The only left number which is not even rolled once is 5 .
And the numbers that can be rolled once more are 1 and 3.
With reference to the second hint it gets clear that under the given scenario, the possible numbers for Aaru and Anya are 1 and 5 irrespectively.

| Persons | Case1 | Case2 <br> [Eliminated] <br> First hint <br> violated | Case2A <br> [Eliminated] More than <br> 2 persons rolled 6 |
| :---: | :---: | :---: | :---: |
|  | Numbers | Numbers | Numbers |
| Anya | $1 / 5$ |  |  |
| Avi | 4 | 3 | 6 |
| Annie | 1 | 2 | 2 |
| Aaru | $5 / 1$ |  |  |
| Amy | 6 |  | 6 |
| Ayesha | 4 | 2 | 3 |
| Aksh | 2 | 1 | 3 |
| Adwik | 2 | 1 |  |
| Atif | 6 |  | 6 |
| Ashu | 3 | 6 |  |

## Reference:

- Anya's final position was somewhere below Aaru's.
- The movement takes place as per the ascending order of their initial floor numbers starting with the person on floor number1.
- 1: remains on the same floor
- 2: move 5 floors up
- 3: swap position with the person just above
- 4: move to floor number 7
- 5: move to floor number 3
- 6: swap position with the person on the lowest floor
- Note- After rearrangement two or more persons could stand on one floor.


## Inference:

The numbers rolled by Aaru and Anya will be decided by the rule that satisfies the first hint and make Anya somewhere below Aaru.
To make Anya below Aaru, the number rolled by her should be 5 , so that she can move to floor number 3 .

| Floor <br> number | Initial <br> Position | Numbers <br> rolled | New <br> position |
| :---: | :---: | :---: | :---: |
|  | Persons |  |  |$|$| 10 | Anya | 5 |  |
| :---: | :---: | :---: | :---: |
| 9 | Avi | 4 | Aksh |
| 8 | Annie | 1 | Annie, <br> Adwik |
| 7 | Aaru | 1 | Aaru, <br> Ayesha, <br> Avi |
| 6 | Amy | 6 | Ashu |
| 5 | Ayesha | 4 |  |
| 4 | Aksh | 2 |  |
| 3 | Adwik | 2 | Anya |
| 2 | Atif | 6 | Atif |
| 1 | Ashu | 3 | Amy |

30. From the following explanation it is clear that the floor number 7 has the maximum number of persons (3).

Hence option B is correct.
31. From the following explanation it is clear that 4 floors are between the final and initial floor numbers of Amy.

Hence option D is correct.
32. From the following explanation it is clear that floor number 4 is the only floor that remains vacant after rearrangement among the given floor numbers, thus the odd one out.

Hence option C is correct.
33. From the following explanation it is clear that the sum of the initial floor number and the number rolled by Aksh is $4+2=6$.

Hence option A is correct.
34. From the following explanation it is clear that Anya and Atif both stand between Amy and Ashu in the final arrangement.

Hence option E is correct.

## Common Explanation: ( Q. 35 to 38)

## References

Janaki's interview is scheduled in the forenoon of Tuesday.
Chander's interview is scheduled on Thursday but not in the same slot as that of David. Ishanth's interview is scheduled on Saturday.

## Inferences

From above statements,

Janaki's interview is scheduled in the forenoon of Tuesday.
Here, Janaki's interview is scheduled at 9am on Tuesday.
Chander's interview is scheduled on Thursday but not in the same slot as that of David.

Chander's interview is scheduled on Thursday either at 9am or 2 pm . As per condition Chander's interview and David's interview is scheduled at different slots.

Ishanth's interview is scheduled on Saturday.
Ishanth's interview is scheduled on Saturday either at 9am or 2 pm .

Now with respect to Chander's slot and Ishanth's slot, we get four possibilities as shown in the following table.

| Day | Slots | Case: 1 | Case: 1-A | Case: 2 | Case: 2-A |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Candidate | Candidate | Candidate | Candidate |
| Monday | 9 am |  |  |  |  |
|  | 2 pm |  |  |  |  |
| Tuesday | 9 am | Janaki | Janaki | Janaki | Janaki |
|  | 2 pm |  |  |  |  |
| Wednesday | 9 am |  |  |  |  |
|  | 2 pm |  |  |  |  |
| Thursday | 9 am | Chander | Chander |  |  |
|  | 2 pm |  |  | Chander | Chander |
| Friday | 9 am |  |  |  |  |
|  | 2 pm |  |  |  |  |
| Saturday | 9 am | Ishanth |  | Ishanth |  |
|  | 2 pm |  | Ishanth |  | Ishanth |

## References

Janaki attends her interview neither on the same day nor in the same slot in which Bakiya and Gokila attend their interview.

A maximum of two interviews are scheduled between David's interview and Lathika's interview and also, not in the same slot of any day.

A minimum of five interviews are scheduled between the interviews of Kavya and Gokila.
Also, Gokila's interview is scheduled before the interview of Kavya.

David's interview is scheduled after the interview of Kavya but not on the same day.

Bakiya's interview and Hirthika's interview are scheduled on two consecutive days of the week and in the same slot of the days.

Bakiya's interview is scheduled before Hirthika's interview.
Chander's interview is scheduled on Thursday but not in the same slot as that of David.

## Inferences

From above statements,
Janaki attends her interview neither on the same day nor in the same slot of any day to either of Bakiya and Gokila.

Given, Janaki's interview is scheduled in the forenoon (9am) of Tuesday.
Now as per condition, both Bakiya and Gokila‘s interview is not scheduled on Tuesday. Also, both Bakiya and Gokila's interview is not scheduled at 9am (forenoon) of any day.

Bakiya's interview and Hirthika's interview are scheduled on two consecutive days of the week and in the same slot of the days. Bakiya's interview is scheduled before Hirthika's interview.

We know Bakiya's interview is not scheduled on Tuesday and Bakiya's interview is not scheduled at 9am (forenoon) of any day. Therefore Bakiya's interview is scheduled on any day (except Tuesday) at 2 pm . Thus Hirthika's interview is scheduled on any day at 2 pm (after Bakiya's interview) with respect to Bakiya's interview date.

A maximum of two interviews are scheduled between David's interview and Lathika's interview and also, not in the same slot of any day.

Maximum of two interviews are scheduled between David's interview and Lathika's interview but in different slots.

Now as per condition, we get the clue that, either no interview is scheduled between David's interview and Lathika's interview or two interviews are scheduled between David's interview and Lathika's interview.

Note: one of the two possibilities (above said) will be matched in the above table.

A minimum of five interviews are scheduled between the interviews of Kavya and Gokila. Also, Gokila's interview is scheduled before the interview of Kavya. David's interview is scheduled after the interview of Kavya but not on the same day.

Minimum of five interviews are scheduled between the interviews of Kavya and Gokila (Gokila's interview is scheduled before Kavya).

Note: Minimum 5 interviews should be scheduled between the interviews of Kavya and Gokila. Maximum it can be more than 5 and it is based on the other conditions.

Here, David's interview is scheduled after the interview of Kavya but on different days. So if Kavya interview is scheduled on Saturday at 9am and then David's interview is scheduled on Saturday at 2 pm which violates the given statement.

It is clearly understood that, Kavya's interview is not scheduled on Saturday (both slots)
Also, to get minimum of five interviews between Kavya and Gokila's interview \& then Gokila's interview must be scheduled either in Monday (2pm) or Wednesday (2pm). If Gokila's interview is scheduled on Wednesday at 2 pm and then Kavya's interview is scheduled in Saturday which is not possible.

Therefore, we conclude that Gokila's interview is scheduled in Monday at 2 pm (only possibility)
Chander's interview is scheduled on Thursday and his interview is not scheduled on the same slot to that of David.

Here, Chander's interview and David's interview is scheduled at different slots.

## Points to Remember before filling the table:

Gokila's interview is not scheduled on Tuesday.

Gokila's interview is not scheduled at 9am of any day.

Bakiya's interview is not scheduled on Tuesday.
Bakiya's interview is not scheduled at 9am of any day.

Bakiya and Hirthika above said condition (consecutive days \& same slots i.e. 2 pm and Bakiya attends before Hirthika)

David and Lathika above said condition (between them either 2 interviews or no interview is scheduled)

Kavya and David above said condition (David attends after Kavya but in different days) Chander and David above said condition (both are scheduled in different slots)

Note: Gokila's interview is scheduled in Monday at 2pm and Kavya's interview slot can be determined based on the combination of above said points.

Case 1: Possibilities based on above said points [Chander attends at 9am]
I. If Kavya's interview is scheduled on Thursday at 2 pm and then Bakiya and Hirthika's interview is scheduled on Friday and Saturday at 2pm respectively. Then David's interview is to be scheduled on Friday at 9am which is not possible as per statement. Hence this becomes invalid.
II. If Kavya's interview is scheduled on Friday at 9am and then Bakiya and Hirthika's interview is scheduled on Wednesday and Thursday at 2 pm respectively. Then David's interview is to be scheduled on Saturday at 2 pm . But there is no days left for Lathika as per condition. Hence this becomes invalid.
III. If Kavya's interview is scheduled on Friday at 2 pm and then Bakiya and Hirthika's interview is scheduled on Wednesday and Thursday at 2 pm respectively. Then David's interview is scheduled on Saturday at 2 pm , by this Lathika's interview is scheduled on Friday at 9am. All above said points gets satisfied.

Case 1-A: Possibilities based on above said points [Chander attends at 9am]
I. If Kavya's interview is scheduled on Thursday at 2 pm . Then there is no days/slots left for Bakiya and Hirthika's interview schedule. Hence this becomes invalid.
II. If Kavya's interview is scheduled on Friday at 9am. Then there is no days/slots left for David's interview schedule i.e. David can't attend in Friday and in forenoon (9am) slot of any day. Hence this becomes invalid.
III. If Kavya's interview is scheduled on Friday at 2 pm . Then there is no days/slots left for David's interview schedule i.e. David can't attend in Friday and in forenoon (9am) slot of any day. Hence this becomes invalid.

Therefore Case 1-A can be eliminated.

Case 2: Possibilities based on above said points [Chander attends at 2 pm ]
I. If Kavya's interview is scheduled on Friday at 9am. Then there is no days/slots left for David's interview schedule i.e. David can't attend the interview at 2 pm of any day. Hence this becomes invalid.
II. If Kavya's interview is scheduled on Friday at 2 pm . Then there is no days/slots left for David's interview schedule i.e. David can't attend the interview at 2 pm of any day. Hence this becomes invalid.

Therefore Case 2 can be eliminated.

Case 2-A: Possibilities based on above said points [Chander attends at 2 pm ]

In this case there is no days/slots left for Bakiya and Hirthika's interview as per given statement. Hence this case can be eliminated.
By using above all information, we get the following table as shown.

| Day | Slots | Case: 1 | Eliminated <br> [Not satisfied all points] |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Case: 1-A | Case: 2 | Case: 2-A |
|  |  |  | Candidate | Candidate | Candidate |
| Monday | $9 a m$ |  |  |  |  |
|  | 2 pm | Gokila | Gokila | Gokila | Gokila |
| Tuesday | 9 am | Janaki | Janaki | Janaki | Janaki |
|  | 2 pm |  |  |  |  |
| Wednesday | 9 am |  |  |  |  |
|  | 2 pm | Bakiya |  |  |  |
| Friday | 9 am | Chander | Chander |  |  |
|  | 2 pm | Hirthika |  | Chander | Chander |
| Saturday | 9 am | Lathika |  |  |  |
|  | 2 pm | Kavya |  |  |  |
|  | 9 am | Ishanth |  | Ishanth |  |

## References

Fathima's interview is scheduled next to Elakiya's interview.

Ananya attends the interview in the forenoon of a day.

## Inferences

From above statements,
Fathima's interview is scheduled next to Elakiya's interview.
Elakiya's interview is scheduled on Tuesday at 2 pm and Fathima's interview is scheduled on Wednesday at 9am (only possibility as per above table in Case:1)

Ananya attends the interview in the forenoon of a day.

Finally, Ananya's interview is scheduled on Monday at 9am. Thus we get the completed table as shown below,

| Day | Slots | Case: $\mathbf{1}$ |
| :---: | :---: | :---: |
|  |  | Candidate |
| Monday | 9 am | Ananya |
|  | 2 pm | Gokila |
| Tuesday | 9 am | Janaki |
|  | 2 pm | Elakiya |
| Wednesday | 9 am | Fathima |
|  | 2 pm | Bakiya |
| Thursday | 9 am | Chander |
|  | 2 pm | Hirthika |
| Friday | 9 am | Lathika |
|  | 2 pm | Kavya |
| Saturday | 9 am | Ishanth |
|  | 2 pm | David |

35. The following common explanation, we get "Ananya-Monday-9am".

Hence, option B is correct.
36. The following common explanation, we get "Lathika-Friday-9am".

Here, Chander-Thursday-9am.
Hence, option B is correct.
37. The following common explanation, we get "Lathika-Friday-9am \& Kavya-Friday-2pm".

Hence, option A is correct.
38. The following common explanation, we get "Lathika- Friday-9am".

Hirthika-Thursday-2pm
Hence, option B is correct.

## Common Explanation: ( Q. 39 to 42)

## References:

$C$ is the elder daughter of $A$
E , mother of H and C , who is unmarried
$B$ is grandfather of H
Fis grandson of $G$.
G is female member and G has one daughter.

D, who is son-in-law of A's wife

Equal number of males and females are there in the family.
There are two mothers and two fathers in the family

## Inferences:

Statements are taken only to find the blood relation of the family.

We know total members of the family are $A, B, C, D, E, F, G$ and $H$ (8 members)

C is the elder daughter of A and E is mother of both C and H . So we conclude that A and E are couples i.e. A is the husband of $E$ and also $H \& C$ are the children of $A-E$ couple (reference points $1 \& 2$ )
$B$ is the grandfather of $H$ and $F$ is grandson of $G$, who is female member. Thus we conclude that $B$ (male member) and G (female member) are from the $1^{\text {st }}$ generation and H (gender not known) and F (male member) are from the $3^{\text {rd }}$ generation. $G$ has one daughter (reference points $3,4 \& 5$ ).
$D$ (male member) is the son-in-law of $E$ ( $A^{\prime}$ s wife) (reference point 6)
Given, 4 males and 4 females are there in the family (reference point 7). As of now we know, A, B, D and F are the male members of the family.

Therefore, $\mathrm{G}, \mathrm{E}, \mathrm{C}$ and H are the female members of the family.

Given, there are two fathers \& two mothers in the family (reference point 8).

By combining all above information, we get that $B$ is the husband of $G$. $G$ 's daughter is $E$ and son-in-law is $A$. $F$, C and H are the children of $\mathrm{A}-\mathrm{E}$ couple. Finally, H is wife of D . Thus we get all relation as per condition and it is shown in family tree.

## Family tree



References:

A to H are the eight family members of having distinct salary, working efficiency and age in each category.
They were ranked in each category from rank 1 to 8 with highest being $1^{\text {st }}$ and lowest being $8^{\text {th }}$ but not necessarily in the same order.

## Inferences:

Given, there are three categories like distinct salary, working efficiency and age.
From the $2^{\text {nd }}$ reference point, we easily understood that the one who has better efficiency gets $1^{\text {st }}$ rank and the one who has least efficiency gets $8^{\text {th }}$ rank in efficiency category

Similarly, the one who is eldest in the family gets $1^{\text {st }}$ rank and the one who is youngest in the family gets $8^{\text {th }}$ rank in age category.

Similarly, the one who has highest salary gets $1^{\text {st }}$ rank and the one who gets lowest salary gets $8^{\text {th }}$ rank in salary category.

Keep all above information in mind while solving this puzzle.

## References:

A has better efficiency among all members.

G is female member and she ranked second from bottom in efficiency category
F has lower salary among all members.
F is grandson of $G$ and has same rank in all categories.

No female has better efficiency than B.

C is the elder daughter of $A$ and has better efficiency than both her mother and grandmother.
D, who is son-in-law of A's wife has better efficiency than B
$E$ has lower efficiency than H and C , who is unmarried.

## Inferences:

Statements are taken only to find efficiency.
A gets $1^{\text {st }}$ rank (better rank among 8 persons) in efficiency category (reference point-1)
G gets $7^{\text {th }}$ rank (second from bottom) in efficiency category (reference point-2)
F gets $8^{\text {th }}$ rank in salary category (lowest among 8 persons) and same rank in both efficiency and age category (reference points $3 \& 4$ )

We know female members of the family are G, E, C and H (refer family tree)
Therefore $B$ has better efficiency than $G, E, C$ and $H$ (reference point 5)
C has better efficiency than E (mother) and G (Grandmother) (reference point $6 \&$ family tree)

D has better efficiency than B (reference point 7)
$H$ and $C$ has better efficiency than $E$ (reference point 8)
By combining reference points $5,6,7 \& 8$ we get

## $B>G / E / C / H, C>E / G, D>B$ and $H / C>E$

Now by combining above condition and we know $A, G$ and $F$ gets $1^{\text {st }}, 7^{\text {th }}$ and $8^{\text {th }}$ rank respectively in efficiency category.

## D $>\mathrm{B}>\mathrm{C} / \mathrm{H}>\mathrm{E}>\mathrm{G}$

Thus we get $D, B$, and $E$ gets $2^{\text {nd }}, 3^{\text {rd }}$ and $6^{\text {th }}$ rank in efficiency category and either H or C gets $4^{\text {th }}$ or $5^{\text {th }}$ rank in efficiency category.

By using above information we get the following table as shown

| Rank | Salary | Age | Efficiency |
| :---: | :---: | :---: | :---: |
| 1 |  |  | A |
| 2 |  |  | D |
| 3 |  |  | B |
| 4 |  |  | $\mathrm{C} / \mathrm{H}$ |
| 5 |  |  | $\mathrm{H} / \mathrm{C}$ |
| 6 |  |  | E |
| 7 |  |  | G |
| 8 | F | F | F |

## References:

$B$ is eldest person of the family.
$G$ is female member and she ranked second from bottom in efficiency category and got lesser salary than $D$ but immediate younger than B.
$D$ is immediately below to $E$ in age category.
$C$ is the elder daughter of $A$ and has better efficiency than both her mother and grandmother but she is younger than both $G$ and $B$.

C is one ranked below rank in both in salary and age category that she got in efficiency category.

## Inferences:

Statements are taken to find the ranks in age category.

Generally by using family tree we can say that first generation>second generation>third generation

We know from family tree
$1^{\text {st }}$ generation: B and $\mathrm{G}, 2^{\text {nd }}$ generation: A and $\mathrm{E} \& 3^{\text {rd }}$ generation: $\mathrm{F}, \mathrm{C}, \mathrm{H}$ and D
Thus we get $B / G>A / E>F / C / H / D$ (general condition based on family tree)
Now from above statements,

B gets $1^{\text {st }}$ (eldest person) in age category (reference point-1)
G gets $2^{\text {nd }}$ rank (immediate younger than $B$ ) in age category (reference point-2)
Now we know, the persons $A$ and $E$ are from second generation.
Given, D is immediate younger to E in age category. Thus we know E is from $2^{\text {nd }}$ generation and D is from third generation.

If E gets $3^{\text {rd }}$ and D gets $4^{\text {th }}$ rank in age category then is no place for A i.e. $2^{\text {nd }}$ generation person must be elder to $3^{\text {rd }}$ generation person.

Therefore we conclude that, $\mathrm{A}, \mathrm{E}$ and D gets $3^{\text {rd }}, 4^{\text {th }}$ and $5^{\text {th }}$ rank in age category.

Given, C is the elder daughter of A . Then C and H gets $6^{\text {th }}$ and $7^{\text {th }}$ rank respectively in age category since F gets $8^{\text {th }}$ rank in age category. Thus we get all ranks in age category.

With respect to last reference point, C gets $6^{\text {th }}$ rank in both Age and Salary category i.e. one rank below from the C's efficiency rank.

That is, C gets $5^{\text {th }}$ rank and H gets $4^{\text {th }}$ rank in efficiency category.

| Rank | Salary | Age | Efficiency |
| :---: | :---: | :---: | :---: |
| 1 |  | B | A |
| 2 |  | G | D |
| 3 |  | A | B |
| 4 |  | E | H |
| 5 |  | D | C |
| 6 | C | C | E |
| 7 |  | H | G |
| 8 | F | F | F |

## References:

$B$ has same rank in any of the two categories.

D's salary is immediately lesser than E .
E , mother of H and C and getting higher salary than both H and C
G is female member and she ranked second from bottom in efficiency category and got lesser salary than D but immediate younger than B.

G's son-in-law's salary and A's father-in-law salary are in consecutive ranks.
$A, D$ and $G$ doesn't have the same rank in any of the three categories.

## Inferences:

With respect to $1^{\text {st }}$ reference point, either B gets same rank in Salary \& age category (1st rank represented in case-1) or gets same rank Efficiency \& salary category ( $3^{\text {rd }}$ rank represented in case-2)

From reference point 5, G's son-in-law is $A$ and $A$ 's father-in-law is $B$ i.e. $A$ and $B$ gets consecutive ranks in salary category.

From remaining reference points ( $2,3,4 \& 5$ ) we get,

## A \& B (consecutive ranks), $D<E$ (immediate lesser), $E>H / C$ and $G<D$

By combining conditions, $A / B, E>H / C$ \& $E>D>G$
It is clearly understood that H, C, D and G gets lesser rank in salary category than E in salary category.
From last reference point, A doesn't get $1^{\text {st }}$ rank \& $3^{r d}$ rank in salary category, similarly $G$ doesn't get $2^{\text {nd }}$ and $7^{\text {th }}$ rank in salary category and also D doesn't get $2^{\text {nd }} \& 5^{\text {th }}$ rank in salary category.

We know totally 4 persons (H, C, D and G) gets lesser rank in salary category than E. Also we know C gets $6^{\text {th }}$ rank in salary category.

By using all above information, let check the possibilities

Case-1 for salary category: $B$ gets $1^{\text {st }}$ rank (both in salary and age) and $A$ gets $2^{\text {nd }}$ rank ( $A$ and $B$ get consecutive ranks). E and D get $3^{\text {rd }}$ and $4^{\text {th }}$ rank respectively since $D$ doesn't get $5^{\text {th }}$ rank in salary category and E \& D also get consecutive ranks. G doesn't get $7^{\text {th }}$ rank and then $G$ gets $5^{\text {th }}$ rank and finally H gets $7^{\text {th }}$ rank. Thus all conditions gets satisfied and we get the completed table.

Case-2 for salary category: $B$ gets $3^{\text {rd }}$ rank (both in salary and efficiency) and here $A$ gets $4^{\text {th }}$ rank ( $A$ and $B$ get consecutive rank). Now there is no place for consecutive ranks of $E$ and $D$ since $D$ doesn't get $2^{\text {nd }}$ rank ( $D$ already gets $2^{\text {nd }}$ rank in efficiency). Hence this case become invalid and it can be eliminated.

| Case-1 |  |  |  | Case-2 [Eliminated] <br> E \& D get consecutive ranks. D doesn't <br> get same rank |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | Salary | Age | Efficiency | Rank | Salary | Age | Efficiency |
| 1 | B | B | A | 1 | E | B | A |
| 2 | A | G | D | 2 | D | G | D |
| 3 | E | A | B | 3 | B | A | B |
| 4 | D | E | H | 4 | A | E | H |
| 5 | G | D | C | 5 |  | D | C |
| 6 | C | C | E | 6 | C | C | E |
| 7 | H | H | G | 7 |  | H | G |
| 8 | F | F | F | 8 | F | F | F |

Case-2-A for salary category: $B$ gets $3^{\text {rd }}$ rank (both in salary and efficiency) and here $A$ gets $2^{\text {nd }}$ rank ( $A$ and $B$ get consecutive rank). Now there is no place for consecutive ranks of $E$ and $D$ since $D$ doesn't get $5^{\text {th }}$ rank ( $D$ already gets $5^{\text {th }}$ rank in age). Hence this case become invalid and it can be eliminated.

| Case-2-A [Eliminated] <br> E \& D get consecutive ranks. D doesn't <br> get same rank |  |  |  |
| :---: | :---: | :---: | :---: |
| Rank | Salary | Age | Efficiency |
| 1 |  | B | A |
| 2 | A | G | D |
| 3 | B | A | B |
| 4 | E | E | H |
| 5 | D | D | C |
| 6 | C | C | E |
| 7 |  | H | G |
| 8 | F | F | F |

39. Following the common explanation, we get " $A$ 's mother-in-law is $G$ and $G$ is in 5th rank in salary category".

Hence, option A is correct.
40. Following the common explanation, we get "Both $A$ and $B$ ".

A's mother-in-law is grandmother E's daughter and $A$ is father of $E$ 's daughter Hence, option E is correct.
41. Following the common explanation, we get "Both $A$ and $B$ ".

G got higher salary than C but lesser than E \&
Difference between the rank of G's salary and efficiency is 2
Hence, option D is correct.
42. Following the common explanation, we get " $2+4+5=11$ ".

Hence, option D is correct.

## Common Explanation: ( Q. 43 to 46)

## References:

Ranjith went for shopping in a month, which doesn't have 31 days and he purchased for Rs. 1250 . Umesh went for shopping immediately before Ranjith.

Only two persons went for shopping between Ranjith and Virat, who doesn't go in January.
The person, who went for shopping immediately after Virat, purchased for Rs.3250.
Two persons went for shopping between Tushar and the person, who went for shopping immediately after Virat.

Tushar doesn't go in July and he purchased for Rs. 3650 .

## Inferences:

From above statements,
Ranjith went for shopping in either February or April or June (all these months have less than 31 days). Thus we get three possibilities. Ranjith purchased for Rs. 1250 .

After placing Ranjith in each case, we can directly fill the remaining statements with respect to Ranjith's month.
By using above information, we get the initial table as follows,

| Case-1 |  |  |  |  | Case-2 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Days | Month | Person | Amount | Days | Month | Person | Amount |  |  |
| 31 | January | Umesh |  | 31 | January | Virat |  |  |  |
| 28 | February | Ranjith | Rs.1250 | 28 | February |  |  |  |  |
| 31 | March | Tushar | Rs.3650 | 31 | March | Umesh |  |  |  |
| 30 | April |  |  | 30 | April | Ranjith | Rs. 1250 |  |  |
| 31 | May | Virat |  | 31 | May | Tushar | Rs. 3650 |  |  |
| 30 | June |  | Rs.3250 | 30 | June |  |  |  |  |
| 31 | July |  |  | 31 | July | Virat |  |  |  |
| 31 | August |  |  | 31 | August |  | Rs. 3250 |  |  |


| Case-3 |  |  |  |
| :---: | :---: | :---: | :---: |
| Days | Month | Person | Amount |
| 31 | January | Tushar | Rs.3650 |
| 28 | February |  |  |
| 31 | March | Virat |  |
| 30 | April |  | Rs.3250 |
| 31 | May | Umesh |  |
| 30 | June | Ranjith | Rs.1250 |
| 31 | July | Fushar |  |
| 31 | August |  |  |

## References:

Queen went for shopping immediately before Praveen and neither of them purchased for Rs.3250.
Praveen is not the last person to go for shopping.

## Inferences:

From above statements,

Case-1: Both Queen and Praveen doesn't purchase for Rs.3250. Praveen doesn't go for shopping in August month (last month among given). By using these conditions, case-1 gets eliminated (violates the both reference point).

Case-2: Queen and Praveen went for shopping in January and February month respectively (only possibility)

| Case-1 [Eliminated] |  |  |  |  | Case-2 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Praveen doesn't went for shopping in August |  |  | Month |  |  |  | Person |  |  |
| Days | Month | Person | Amount | Days | Mmount |  |  |  |  |
| 31 | January | Umesh |  | 31 | January | Queen |  |  |  |
| 28 | February | Ranjith | Rs.1250 | 28 | February | Praveen |  |  |  |
| 31 | March | Tushar | Rs.3650 | 31 | March | Umesh |  |  |  |
| 30 | April |  |  | 30 | April | Ranjith | Rs. 1250 |  |  |
| 31 | May | Virat |  | 31 | May | Tushar | Rs. 3650 |  |  |
| 30 | June | Praveen/Queen | Rs.3250 | 30 | June |  |  |  |  |
| 31 | July | Queen |  | 31 | July | Virat |  |  |  |
| 31 | August | Praveen |  | 31 | August |  | Rs. 3250 |  |  |

Case-3: Praveen doesn't go for shopping in August month (last month among given). By using this condition, case-3 gets eliminated (violates the $2^{\text {nd }}$ reference point).

| Case-3 [Eliminated] <br> Praveen doesn't went for shopping in <br> August |  |  |  |
| :---: | :---: | :---: | :---: |
| Days | Month | Person | Amount |
| 31 | January | Tushar | Rs. 3650 |
| 28 | February |  |  |
| 31 | March | Virat |  |
| 30 | April |  | Rs. 3250 |
| 31 | May | Umesh |  |
| 30 | June | Ranjith | Rs. 1250 |
| 31 | July | Queen |  |
| 31 | August | Praveen |  |

Note: Only Case-2 is left to continue.

## References:

Not more than two persons purchased things for same amount.
Ranjith and Queen purchased for same amount.

Umesh and Sahana purchased for same amount but not for Rs.3250.

Only one person purchased for Rs. 2250 and Rs. 2750.
The person who went for shopping in February doesn't purchase for Rs. 2750.

Inferences:

From above statements,
The amounts given are Rs.1250, Rs.1750, Rs.2250, Rs.2750, Rs. 3250 and Rs. 3650 .
Also given, maximum two persons can use same amount.
Given, Ranjith purchased for Rs. 1250 and then Queen also purchased for Rs. 1250 (both are purchased for same amount, reference point-2)

Given, Sahana not purchased for Rs. 3250 and then she went for shopping in June month (only possibility, reference point-3)

Finally, Wafiq went for shopping in August month.
It is observed that, Rs. 1250 used by Ranjith and Queen, Rs. 3250 is used by Wafiq and Rs. 3650 is used by

Tushar also given, that only one person purchased for Rs. 2250 and Rs. 2750 .

Then remaining amount left is only Rs.1750. Therefore both Umesh and Sahana purchased for Rs. 1750 (only possibility)

Given, the person who went for shopping in February doesn't purchase for Rs.2750. Therefore Praveen (February) purchased for Rs. 2250 (only possibility)

Finally, Virat purchased for Rs.2750. Thus we get the completed table.

| Case-2 |  |  |  |
| :---: | :---: | :---: | :---: |
| Days | Month | Person | Amount |
| 31 | January | Queen | Rs.1250 |
| 28 | February | Praveen | Rs. 2250 |
| 31 | March | Umesh | Rs.1750 |
| 30 | April | Ranjith | Rs.1250 |
| 31 | May | Tushar | Rs.3650 |
| 30 | June | Sahana | Rs.1750 |
| 31 | July | Virat | Rs.2750 |
| 31 | August | Wafiq | Rs. 3250 |

43. Following the common explanation, we get "Virat-Rs.2750".

Hence, option C is correct.
44. Following the common explanation, we get "Wafiq".

Hence, option D is correct.
45. Following the common explanation, we get "Two".

Umesh and Sahana purchased for Rs.1750.
Two persons went for shopping between Umesh and Sahana.
Hence, option B is correct.
46. Following the common explanation, we get "Rs. 4000".

Praveen-Rs. 2250 \& Sahana - Rs. 1750

Sum $=2250+1750=4000$
Hence, option C is correct.

## Common Explanation: (Q. 47 to 50)

## Reference:

(Consider your left as left and your right as right)
There are only two electronic circuits between 6 and 12 where 6 is above 12 in column Z .
The right most value of row * is 18 .
The sum of column $Z$ is 46 .
Electrical Engineer Ritesh has prepared a $3 \times 4$ matrix, that contained electronic circuits numbered as composite numbers between 3 to 32 (of natural number series).

## Inference:

So, the possible circuit values are - 4,6,8,10,12,14,15,16,18,20,21,22,24,25,26,27,28,30 and 32 .

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ |  |  | 6 |
| $\&$ |  |  |  |
| $*$ |  |  | 18 |
| $\#$ |  |  | 12 |

As the sum of cloumn $Z$ is 46 and we already have 36 as sum of three cicuits. $(6+18+12)$
Remaining circuit value is $46-36=10$.

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ |  |  | 6 |
| $\&$ |  |  | 10 |
| $*$ |  |  | 18 |
| $\#$ |  |  | 12 |

## Reference:

Column $X$ does not have an even numbered electronic circuit.
The sum of the first three circuits of column $X$ is a perfect square.
The column to the immediate left of 18 is left blank.
One of the values of row @ is 25 .

## Inference:

Thus as per the first hint the possible values of column $X$ are $-9,21,25$ and 27 .
As the sum of first three values is a perfect square, thus the only possible combination is $15+9+25=49$, which is a square of 7 .
But we don't know the position of 21 and 9 , so we have following two cases.

## Case1

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 25 |  | 6 |
| $\&$ | 9 |  | 10 |
| $*$ | 15 | - | 18 |
| $\#$ |  |  | 12 |

## Case2

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 25 |  | 6 |
| $\&$ | 15 |  | 10 |
| $*$ | 9 | - | 18 |
| $\#$ |  |  | 12 |

## Reference:

The column to the immediate right of 15 is left blank.
Only one column is blank in the entire matrix.
Sum of any of the columns cannot exceed 75 .

## Inference:

Thus Case 2 fails, as immediate right column of 15 is left blank and there is only one blank column.
The only left of value for column $X$ are 21 and 27.

Sum of first three values of column $X$ is 49 , if fourth value is 27 , then sum $=49+27 \Rightarrow 76$, which violates the last hint.
Sum of first three values of column $X$ is 49 , if fourth value is 21 , then sum $=49+21 \Rightarrow 70$, which satisfies the last hint.

## Case1

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 25 |  | 6 |
| $\&$ | 9 |  | 10 |
| $*$ | 15 | - | 18 |
| $\#$ | 21 |  | 12 |

## Reference:

One of the electronic circuits valued as 24.
The value immediate left to 10 is 32 .
One of the values of row @is 16.
The sum of the circuits of column $Y$ is the maximum.

## Inference:

|  | X | Y | Z |
| :---: | :---: | :---: | :---: |
| $@$ | 25 | 16 | 6 |
| $\&$ | 9 | 32 | 10 |
| $*$ | 15 | - | 18 |
| $\#$ | 21 | 24 | 12 |

47. $\operatorname{Track} A=* Z \& X \# Z \# X$

Track A = 1891221

Only Condition III is applicable here, because 9 is a perfect square.

Thus the sum of tens digits $=1+1+2=4$
and the sum of unit digits $=8+2+1=11$

Required value $=11-4=7$
If the sum of musical notes is less than 30 then button $P$ will blink.

Hence option D is correct.
48. $\quad$ Track $B=* Z \# Y$ \& Q Z

Track B=18 24106

Only Condition I is applicable here, because all the values are even number.

The sum of the largest and the second smallest number $=24+10 \Rightarrow 34$
If the sum of electronic circuits is $31-50$, then button $Q$ will blink.

Hence option A is correct.

## 49. Option A - @Z \& X \#X \& Y

Numeric representation - 692132

Only Condition II and III both are applicable here, thus condition III will overrule II.
The sum of unit digits is $=1+2 \Rightarrow 3$

The sum of tens digits is $=3+2 \Rightarrow 5$

Required difference $=2$

If the sum of electronic circuits is $<\mathbf{3 0}$, then button $P$ will blink.

## Option B - @Z *Z \#Y \& Y

Numeric representation - 6182432
Only condition I is applicable, because all the numbers are even.
The sum of largest and second smallest number $=32+18 \Rightarrow 50$
If the sum of electronic circuits is $\mathbf{3 1 - 5 0}$, then button $Q$ will blink.
Option C-\#Z *X @Z *
Numeric representation-12 156
Conditions II and IV are applicable, thus condition IV will overrule condition II.

Thus value will be the highest one i.e. 32 .
If the sum of electronic circuits is $\mathbf{3 1 - 5 0}$, then button $Q$ will blink.
Thus, option $B$ and $C$ will make button $Q$ blink.

Hence option D is correct.
50. $\operatorname{Track} \mathrm{A}=* \mathrm{Y}$ @Z \#X \& X

Track A = 6219

Condition IV is applicable here.
Thus value of track $A=32$

Track B = @Z *Z \#Z \#Y

Track B = 6181224

Condition I is applicable.
The sum of largest and second smallest number $=24+12=36$.

Value of track $A+\operatorname{track} B=36+32=68$
If sum of circuits is $51-75$ then button $R$ will blink.
Hence option C is correct.

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