## prepp

## Practice，Learn and Achieve Your Goal with Prepp

## IBPS SO Exam

## Prelims Answer Key

## Simplifying <br> Government Exams

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## Solutions

1. Ans. D.

Let the seats be numbered 1 to 8 from left to right


From 4,
G will be on seat 3 . Therefore, the person who plays hockey will be in seat 1
From 3 and 9, either C or D will be on seat 5 or 7 .
From 1 and 6, D cannot be on seat 7 . Therefore, D is on seat 5 and $C$ is on seat 7. Thus, G plays Kabaddi and I who plays chess sits on seat 4. From 2, The person who plays tennis has to be on seat 6 . Hence, $C$ who faces south plays Swimming. From 8 , $A$ cannot be on seat 1,6 or 8 . Therefore $A$ has to be on seat 2 and the person who plays hockey faces north.
From 6, E will be on seat 8.
From 7, H plays tennis. Also, E plays basketball and faces south. Hence, F plays hockey.
From 5, A plays volleyball and D play cricket.
Therefore, the final arrangement is as follows:


The person to the immediate left of $C$ plays Basketball

## 2. Ans. A.

Let the seats be numbered 1 to 8 from left to right


From 4,
G will be on seat 3 . Therefore, the person who plays hockey will be in seat 1
From 3 and 9, either $C$ or $D$ will be on seat 5 or 7 .
From 1 and 6, D cannot be on seat 7 . Therefore, D is on seat 5 and $C$ is on seat 7 . Thus, G plays
Kabaddi and I who plays chess sits on seat 4.
From 2, The person who plays tennis has to be on
seat 6 . Hence, $C$ who faces south plays Swimming.
From $8, A$ cannot be on seat 1,6 or 8 . Therefore $A$ has to be on seat 2 and the person who plays hockey faces north.
From 6, E will be on seat 8 .
From 7, H plays tennis. Also, E plays basketball and faces south. Hence, F plays hockey.
From 5, A plays volleyball and D play cricket.
Therefore, the final arrangement is as follows:


G sits exactly between I and the person who plays volleyball.
3. Ans. C.

Let the seats be numbered 1 to 8 from left to right
$\ldots-l_{1} \mid$

From 4,
G will be on seat 3. Therefore, the person who plays hockey will be in seat 1
From 3 and 9, either C or D will be on seat 5 or 7 .
From 1 and 6, D cannot be on seat 7. Therefore, D is on seat 5 and $C$ is on seat 7. Thus, $G$ plays Kabaddi and I who plays chess sits on seat 4. From 2, The person who plays tennis has to be on seat 6 . Hence, $C$ who faces south plays Swimming. From 8, A cannot be on seat 1,6 or 8 . Therefore A has to be on seat 2 and the person who plays hockey faces north.
From 6, E will be on seat 8.
From 7, H plays tennis. Also, E plays basketball and faces south. Hence, F plays hockey.
From 5, A plays volleyball and D play cricket.
Therefore, the final arrangement is as follows:


The person to the immediate right of A plays hockey.

## 4. Ans. A.

Let the seats be numbered 1 to 8 from left to right


From 4,
G will be on seat 3 . Therefore, the person who plays hockey will be in seat 1
From 3 and 9, either C or $D$ will be on seat 5 or 7 .
From 1 and 6, D cannot be on seat 7. Therefore, D is on seat 5 and $C$ is on seat 7 . Thus, $G$ plays Kabaddi and I who plays chess sits on seat 4. From 2, The person who plays tennis has to be on seat 6 . Hence, $C$ who faces south plays Swimming. From 8 , $A$ cannot be on seat 1,6 or 8 . Therefore $A$ has to be on seat 2 and the person who plays
hockey faces north.
From 6, E will be on seat 8.
From 7, H plays tennis. Also, E plays basketball and faces south. Hence, F plays hockey.
From 5, A plays volleyball and D play cricket.
Therefore, the final arrangement is as follows:


D Plays cricket.
5. Ans. E.

Let the seats be numbered 1 to 8 from left to right


From 4,
G will be on seat 3. Therefore, the person who plays hockey will be in seat 1
From 3 and 9, either C or D will be on seat 5 or 7.
From 1 and 6, D cannot be on seat 7. Therefore, D is on seat 5 and C is on seat 7 . Thus, G plays Kabaddi and I who plays chess sits on seat 4.
From 2, The person who plays tennis has to be on seat 6 . Hence, C who faces south plays Swimming. From 8, A cannot be on seat 1,6 or 8 . Therefore A has to be on seat 2 and the person who plays hockey faces north.
From 6, E will be on seat 8.
From 7, H plays tennis. Also, E plays basketball and faces south. Hence, $F$ plays hockey.
From 5, A plays volleyball and D play cricket.
Therefore, the final arrangement is as follows:


AD does not belong the group.
6. Ans. C.

Box - P, Q, R, S, T, V and W
Colour - Black, silver, red, pink, yellow, white and green

1) There are two boxes between the box $Q$ and box T . There is only one box between box T and box W . There are three boxes between box $W$ and box $P$, which is of black colour. There are only two boxes between box P and box R , which is of white colour. The silver colour box is immediately above the box W.

Case 1:

| Box | Colour |
| :--- | :--- |
|  | Silver |
| W |  |
| R | White |
| T |  |
|  |  |
| P | Black |
| Q |  |

Case 2:

| Box | Colour |
| :--- | :--- |
| Q | Silver |
| W |  |
| R | White |
| T |  |
|  |  |
| P | Black |

2) Box $S$ is immediately above yellow colour box. $T$ is of red colour box.
This is not possible in case 2 . So, case 1 is correct.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V |  |
| P | Black |
| Q |  |

3) More than three boxes are there between pink and silver colour box. More than three boxes are there between yellow and pink colour box.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V | Green |
| P | Black |
| Q | Pink |

Hence, three boxes are there between green and silver colour box.
7. Ans. E.

Box - P, Q, R, S, T, V and W
Colour - Black, silver, red, pink, yellow, white and green

1) There are two boxes between the box $Q$ and box T . There is only one box between box T and box W . There are three boxes between box W and box P , which is of black colour. There are only two boxes between box P and box R , which is of white colour. The silver colour box is immediately above the box W.

Case 1:

| Box | Colour |
| :--- | :--- |
|  | Silver |
| W |  |
| R | White |
| T |  |
|  |  |
| P | Black |
| Q |  |

Case 2:

| Box | Colour |
| :--- | :--- |
| Q | Silver |
| W |  |
| R | White |
| $T$ |  |
|  |  |
| P | Black |

2) Box $S$ is immediately above yellow colour box. $T$ is of red colour box.
This is not possible in case 2 . So, case 1 is correct.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V |  |
| P | Black |
| Q |  |

3) More than three boxes are there between pink and silver colour box. More than three boxes are there between yellow and pink colour box.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V | Green |
| P | Black |
| Q | Pink |

Hence, box Q is of pink colour.
8. Ans. C.

Box - P, Q, R, S, T, V and W
Colour - Black, silver, red, pink, yellow, white and green

1) There are two boxes between the box $Q$ and box T . There is only one box between box T and box W . There are three boxes between box W and box P , which is of black colour. There are only two boxes between box P and box R , which is of white colour.

The silver colour box is immediately above the box W.

Case 1:

| Box | Colour |
| :--- | :--- |
|  | Silver |
| W |  |
| R | White |
| T |  |
|  |  |
| P | Black |
| Q |  |

Case 2:

| Box | Colour |
| :--- | :--- |
| Q | Silver |
| W |  |
| R | White |
| T |  |
|  |  |
| P | Black |

2) Box $S$ is immediately above yellow colour box. $T$ is of red colour box.
This is not possible in case 2 . So, case 1 is correct.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V |  |
| P | Black |
| Q |  |

3) More than three boxes are there between pink and silver colour box. More than three boxes are there between yellow and pink colour box.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V | Green |
| P | Black |
| Q | Pink |

Hence, box R is placed immediately above red colour box.
9. Ans. E.

Box - P, Q, R, S, T, V and W
Colour - Black, silver, red, pink, yellow, white and green

1) There are two boxes between the box $Q$ and box $T$. There is only one box between box $T$ and box $W$. There are three boxes between box $W$ and box $P$,
which is of black colour. There are only two boxes between box P and box R , which is of white colour. The silver colour box is immediately above the box W.

Case 1:

| Box | Colour |
| :--- | :--- |
|  | Silver |
| W |  |
| R | White |
| T |  |
|  |  |
| P | Black |
| Q |  |

Case 2:

| Box | Colour |
| :--- | :--- |
| Q | Silver |
| W |  |
| $R$ | White |
| $T$ |  |
|  |  |
| $P$ | Black |

2) Box $S$ is immediately above yellow colour box. $T$ is of red colour box.
This is not possible in case 2 . So, case 1 is correct.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V |  |
| P | Black |
| Q |  |

3) More than three boxes are there between pink and silver colour box. More than three boxes are there between yellow and pink colour box.

| Box | Colour |
| :--- | :--- |
| S | Silver |
| W | Yellow |
| R | White |
| T | Red |
| V | Green |
| P | Black |
| Q | Pink |

Hence, four boxes are there between box W and box Q.
10. Ans. A.

Person - Tina, Vini, Yasir, Rishi, Sanya, Pankaj and Urmila

City - Paris, Istanbul, Shanghai, Durban, London, Madrid and Dubai

1) Only three people live above the floor on which Sanya lives. Only one person lives between Sanya and the one who goes to Paris. Only three people live between the one who goes to Paris and London.
Case 1:

| Floor Number | Person | City |
| :--- | :--- | :--- |
| 7 |  |  |
| 6 |  | Paris |
| 5 |  |  |
| 4 | Sanya |  |
| 3 |  |  |
| 2 |  | London |
| 1 |  |  |

Case 2:

| Floor Number | Person | City |
| :--- | :--- | :--- |
| 7 |  |  |
| 6 |  | London |
| 5 |  |  |
| 4 | Sanya |  |
| 3 |  |  |
| 2 |  | Paris |
| 1 |  |  |

2) Vini lives just below the person who goes to Madrid. The person who goes to Madrid lives on an even numbered floor.
Case 1:

| Floor Number | Person | City |
| :--- | :--- | :--- |
| 7 |  |  |
| 6 |  | Paris |
| 5 |  |  |
| 4 | Sanya | Madrid |
| 3 | Vini |  |
| 2 |  | London |
| 1 |  |  |

Case 2:

| Floor Number | Person | City |
| :--- | :--- | :--- |
| 7 |  |  |
| 6 |  | London |
| 5 |  |  |
| 4 | Sanya | Madrid |
| 3 | Vini |  |
| 2 |  | Paris |
| 1 |  |  |

3) Urmila lives just above Rishi. Urmila does not go to London. Only two persons live between Pankaj and the one who goes to Durban. Pankaj lives above the person who goes to Durban.
This is not possible in case 1 . So, case 2 is correct.

| Floor Number | Person | City |
| :--- | :--- | :--- |
| 7 |  |  |
| 6 | Pankaj | London |
| 5 |  |  |
| 4 | Sanya | Madrid |
| 3 | Vini | Durban |
| 2 | Urmila | Paris |
| 1 | Rishi |  |

4) Yasir does not go to Istanbul. Tina does not live just above or below Sanya. The one who goes to Shanghai does not live above or below Pankaj.

| Floor Number | Person | City |
| :--- | :--- | :--- |
| 7 | Tina | Istanbul |
| 6 | Pankaj | London |
| 5 | Yasir | Dubai |
| 4 | Sanya | Madrid |
| 3 | Vini | Durban |
| 2 | Urmila | Paris |
| 1 | Rishi | Shanghai |

Hence, Tina lives on floor number 7.
11. Ans. A.

Detail Solution: T goes to movie on $13^{\text {th }}$ of March.
On combining these two statements, we get that $M$ goes to movie on $13^{\text {th }}$ of February and lives on $3^{\text {rd }}$ floor.
Only one person lives on floor 3 and he goes to movies in February. M goes to movie in a month which has the least number of days but not on $27^{\text {th }}$.
A lives neither on floor 1 nor on floor 4. A does not go to movie on $13^{\text {th }}$ of any month.
Since floor 3 is already occupied, the only floor left for $A$ is floor 2 . He goes to movie on $27^{\text {th }}$ of the month.

| 4 | 13th | 27th |
| :---: | :---: | :---: |
|  |  |  |
| 3 | M (february) | -- |
| 2 |  | A |
| 1 |  |  |

U does not go to movie on $13^{\text {th }}$ of any month. $U$ does not live above $M$.
So $U$ will go to movie on $27^{\text {th }}$ and he lives on floor 1.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 |  |  |
| 3 | M (february) | - |
| 2 |  | A |
| 1 |  | U |

J and $Z$ go to movies in the same month but not in January. They live on same floor. J goes after $Z$. The only floor left for both of them is floor 4.

| 4 | 13th | 27th |
| :---: | :---: | :---: |
|  | Z (march/april) | J (march/april) |
| 3 | M (february) | ---------- |
| 2 |  | A |
| 1 |  | U |

S and T go to movies in different months. S does not live with U. So S will live on floor 3 . T will live on floor 1 .

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (march/april) | J (march/april) |
| 3 | M (february) | ------ |
| 2 | S | A |
| 1 | T | U |

T goes in March along with A. So J and $Z$ will go in April. S and A will go in January.

|  | 13th | 27th |
| :--- | :--- | :--- |
| $\mathbf{4}$ | Z (april) | J (april) |
| $\mathbf{3}$ | M (february) |  |
| $\mathbf{2}$ | S (january) | A (march) |
| $\mathbf{1}$ | T (march) | U (janurary) |

This is the final arrangement.
12. Ans. C.

Detail Solution: T goes to movie on $13^{\text {th }}$ of March.
On combining these two statements, we get that $M$ goes to movie on $13^{\text {th }}$ of February and lives on $3^{\text {rd }}$ floor.
Only one person lives on floor 3 and he goes to movies in February. M goes to movie in a month which has the least number of days but not on $27^{\text {th }}$.
A lives neither on floor 1 nor on floor 4. A does not go to movie on $13^{\text {th }}$ of any month.
Since floor 3 is already occupied, the only floor left for $A$ is floor 2 . He goes to movie on $27^{\text {th }}$ of the month.

| 4 | 13th | 27th |
| :---: | :---: | :---: |
|  |  |  |
| 3 | M (february) | ------- |
| 2 |  | A |
| 1 |  |  |

$U$ does not go to movie on $13^{\text {th }}$ of any month. $U$ does not live above M.
So $U$ will go to movie on $27^{\text {th }}$ and he lives on floor 1.

4

| 13th | 27th |
| :---: | :---: |
|  |  |
| $\mathbf{M}$ (february) |  |
|  | A |
|  | U |

J and $Z$ go to movies in the same month but not in January. They live on same floor. J goes after Z .
The only floor left for both of them is floor 4.

4

| 13th | 27th |
| :--- | :--- |
| Z (march/april) | J (march/apri) |
| $\mathrm{M}_{\text {(february) }}$ |  |
|  | A |
|  | U |

S and T go to movies in different months. S does not live with U. So $S$ will live on floor 3 . T will live on floor 1 .

| 13th |  |  | 27th |
| :--- | :--- | :---: | :---: |
| $\mathbf{4}$ | Z (march/april) |  |  |
| $\mathbf{3}$ | M (february) |  |  |
| $\mathbf{2}$ | S (march/april) |  |  |
|  |  |  |  |
|  | T |  |  |

T goes in March along with $A$. So J and $Z$ will go in April. S and A will go in January.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (april) | J (april) |
| 3 | M (february) | ------------ |
| 2 | S (january) | A (march) |
| 1 | T (march) | U (janurary) |

This is the final arrangement.
13. Ans. E.

Detail Solution: T goes to movie on $13^{\text {th }}$ of March.
On combining these two statements, we get that M goes to movie on $13^{\text {th }}$ of February and lives on $3^{\text {rd }}$ floor.
Only one person lives on floor 3 and he goes to movies in February. M goes to movie in a month which has the least number of days but not on $27^{\text {th }}$.
A lives neither on floor 1 nor on floor 4. A does not go to movie on $13^{\text {th }}$ of any month.
Since floor 3 is already occupied, the only floor left for $A$ is floor 2 . He goes to movie on $27^{\text {th }}$ of the month.

|  | 13th | 27th |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  | $M$ (february) |  |
|  |  | $A$ |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

$U$ does not go to movie on $13^{\text {th }}$ of any month. $U$ does not live above $M$.

So $U$ will go to movie on $27^{\text {th }}$ and he lives on floor 1.

4

| 13th | 27th |
| :---: | :---: |
|  |  |
| $\mathbf{M}$ (february) |  |
|  | A |
|  | U |

J and Z go to movies in the same month but not in January. They live on same floor. J goes after Z .
The only floor left for both of them is floor 4.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (march/april) | J (march/april) |
| 3 | M (february) | --------- |
| 2 |  | A |
| 1 |  | U |

S and T go to movies in different months. S does not live with $U$. So $S$ will live on floor 3 . T will live on floor 1 .

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (march/april) | J (march/april) |
| 3 | M (february) | ----------- |
| 2 | S | A |
| 1 | T | U |

T goes in March along with A. So J and $Z$ will go in April. S and A will go in January.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (april) | J (april) |
| 3 | M (february) | ---- |
| 2 | S (january) | A (march) |
| 1 | T (march) | U (janurary) |

This is the final arrangement.
14. Ans. C.

Detail Solution: T goes to movie on $13^{\text {th }}$ of March.
On combining these two statements, we get that $M$ goes to movie on $13^{\text {th }}$ of February and lives on $3^{\text {rd }}$ floor.
Only one person lives on floor 3 and he goes to movies in February. M goes to movie in a month which has the least number of days but not on $27^{\text {th }}$.
A lives neither on floor 1 nor on floor 4. A does not go to movie on $13^{\text {th }}$ of any month.
Since floor 3 is already occupied, the only floor left for $A$ is floor 2 . He goes to movie on $27^{\text {th }}$ of the month.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 |  |  |
| 3 | M (february) |  |
| 2 |  | $A$ |
| 1 |  |  |
|  |  |  |
|  |  |  |

$U$ does not go to movie on $13^{\text {th }}$ of any month. $U$ does not live above $M$.
So $U$ will go to movie on $27^{\text {th }}$ and he lives on floor
1.


J and $Z$ go to movies in the same month but not in January. They live on same floor. J goes after $Z$. The only floor left for both of them is floor 4.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (march/april) | J (march/april) |
| 3 | M (february) | ------------ |
| 2 |  | A |
| 1 |  | U |

S and T go to movies in different months. S does not live with $U$. So $S$ will live on floor 3 . T will live on floor 1 .

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (march/april) | J (march/april) |
| 3 | M (february) | ----------- |
| 2 | S | A |
| 1 | T | U |

T goes in March along with A. So J and $Z$ will go in April. S and A will go in January.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (april) | J (april) |
| 3 | M (february) | ---- |
| 2 | S (january) | A (march) |
| 1 | T (march) | U (janurary) |

This is the final arrangement.
15. Ans. C.

Detail Solution: T goes to movie on $13^{\text {th }}$ of March.
On combining these two statements, we get that $M$ goes to movie on $13^{\text {th }}$ of February and lives on $3^{\text {rd }}$ floor.
Only one person lives on floor 3 and he goes to movies in February. M goes to movie in a month which has the least number of days but not on $27^{\text {th }}$.
A lives neither on floor 1 nor on floor 4. A does not go to movie on $13^{\text {th }}$ of any month.
Since floor 3 is already occupied, the only floor left for A is floor 2 . He goes to movie on $27^{\text {th }}$ of the month.

| 4 | 13th | 27th |
| :---: | :---: | :---: |
|  |  |  |
| 3 | M (february) | ------- |
| 2 |  | A |
| 1 |  |  |

$U$ does not go to movie on $13^{\text {th }}$ of any month. $U$ does not live above $M$.
So $U$ will go to movie on $27^{\text {th }}$ and he lives on floor 1.

|  | 13th | 27th |
| :--- | :--- | :--- |
| 4 |  |  |
| 3 | M (february) |  |
|  |  | A |
|  |  | U |
|  |  |  |
|  |  |  |
|  |  |  |

J and $Z$ go to movies in the same month but not in January. They live on same floor. J goes after Z . The only floor left for both of them is floor 4.

|  | 13th | 27th |
| :---: | :---: | :---: |
| $\mathbf{4}$ | Z (march/april) | J (march/april) |
| $\mathbf{3}$ | M (february) |  |
|  |  | A |
|  |  | U |
|  |  |  |
|  |  |  |

S and T go to movies in different months. S does not live with U. So S will live on floor 3 . T will live on floor 1.

|  | 13th | 27th |
| :--- | :--- | :--- |
| 4 | Z (march/april) | J (march/april) |
| $\mathbf{3}$ | M (february) |  |
| $\mathbf{2}$ | S | A |
|  | T | U |

T goes in March along with A. So J and $Z$ will go in April. S and A will go in January.

|  | 13th | 27th |
| :---: | :---: | :---: |
| 4 | Z (april) | J (april) |
| 3 | M (february) | ------------- |
| 2 | $\mathbf{S}$ (january) | A (march) |
| 1 | T (march) | U (janurary) |

This is the final arrangement.
16. Ans. C.
$R$ belongs to Goa
From the above information
I. There are eight people $P, Q, R, S, T, U, V \& W$.

They belong to six states viz. Delhi, Haryana, Bihar, Rajasthan, Punjab \& Goa
II. There are two persons from Bihar viz. W \& T and two persons from Rajasthan.
III. There are three persons between P \& S; S belongs to Haryana; S \& P both are facing towards the centre
IV. W \& T both are immediate neighbours of S;
$V$. The person from Punjab is sitting $2^{\text {nd }}$ left of $P$; W, one person from Bihar is an immediate neighbour of the person from Punjab i.e. W is sitting $3^{\text {rd }}$ left of $P$.
VI. T, another person from Bihar is an immediate neighbour of Q ; Q is from Rajasthan
VII. The person from Goa is immediate neighbour of Q and one person from Delhi; clearly, P is from Delhi
VIII. V is an immediate neighbour of U and the person from Delhi; i.e. V is an immediate neighbour of P and U ; So, U belongs to Punjab.
IX. Both the neighbours of $V$ are facing towards centre i.e. $P, U$ are facing towards the centre. $S$ is also facing towards centre
X. Clearly R, Q, T, W \& V facing opposite direction to the centre
XI. From the above information, it's clear that V is from Rajasthan and the person from Goa is R.

17. Ans. A.

V \& Q person belongs to Rajasthan
From the above information
I. There are eight people $P, Q, R, S, T, U, V \& W$.

They belong to six states viz. Delhi, Haryana, Bihar, Rajasthan, Punjab \& Goa
II. There are two persons from Bihar viz. W \& T and two persons from Rajasthan.
III. There are three persons between P \& S; S belongs to Haryana; S \& P both are facing towards the centre
IV. W \& T both are immediate neighbours of S; $V$. The person from Punjab is sitting $2^{\text {nd }}$ left of $P$; $W$, one person from Bihar is an immediate neighbour of the person from Punjab i.e. W is sitting $3^{\text {rd }}$ left of $P$.
VI. T, another person from Bihar is an immediate neighbour of Q ; Q is from Rajasthan
VII. The person from Goa is immediate neighbour of Q and one person from Delhi; clearly, P is from Delhi
VIII. V is an immediate neighbour of U and the person from Delhi; i.e. V is an immediate neighbour of P and U ; So, U belongs to Punjab.
IX. Both the neighbours of $V$ are facing towards centre i.e. $P, U$ are facing towards the centre. $S$ is also facing towards centre
X. Clearly R, Q, T, W \& V facing opposite direction to the centre
XI. From the above information, it's clear that V is from Rajasthan and the person from Goa is R.

18. Ans. D.

Q ; since V is facing opposite to the centre, so Q is sitting $3^{\text {rd }}$ left of $V$.
From the above information
I. There are eight people $P, Q, R, S, T, U, V \& W$.

They belong to six states viz. Delhi, Haryana, Bihar, Rajasthan, Punjab \& Goa
II. There are two persons from Bihar viz. W \& T and two persons from Rajasthan.
III. There are three persons between P \& S; S belongs to Haryana; S \& P both are facing towards the centre
IV. W \& T both are immediate neighbours of S;
V. The person from Punjab is sitting $2^{\text {nd }}$ left of $P$; W, one person from Bihar is an immediate neighbour of the person from Punjab i.e. W is sitting $3^{\text {rd }}$ left of P.
VI. T, another person from Bihar is an immediate neighbour of Q ; Q is from Rajasthan
VII. The person from Goa is immediate neighbour of Q and one person from Delhi; clearly, P is from Delhi
VIII. $V$ is an immediate neighbour of $U$ and the person from Delhi; i.e. V is an immediate neighbour of P and U ; So, U belongs to Punjab.
IX. Both the neighbours of $V$ are facing towards centre i.e. $\mathrm{P}, \mathrm{U}$ are facing towards the centre. S is also facing towards centre
X. Clearly R, Q, T, W \& V facing opposite direction to the centre
XI. From the above information, it's clear that V is from Rajasthan and the person from Goa is R.

19. Ans. D.

Goa; $U$ is the person from Punjab and $U$ is facing towards the centre. So $R$, the person from Goa is sitting $3^{\text {rd }}$ to the right of $U$.
From the above information
I. There are eight people $P, Q, R, S, T, U, V \& W$. They belong to six states viz. Delhi, Haryana, Bihar, Rajasthan, Punjab \& Goa
II. There are two persons from Bihar viz. W \& T and two persons from Rajasthan.
III. There are three persons between P \& S; S belongs to Haryana; S \& P both are facing towards the centre
IV. W \& T both are immediate neighbours of S; $V$. The person from Punjab is sitting $2^{\text {nd }}$ left of $P$; W, one person from Bihar is an immediate neighbour of the person from Punjab i.e. W is sitting $3^{\text {rd }}$ left of P.
VI. T, another person from Bihar is an immediate neighbour of Q ; Q is from Rajasthan VII. The person from Goa is immediate neighbor of Q and one person from Delhi; clearly P is from Delhi
VIII. $V$ is an immediate neighbour of $U$ and the person from Delhi; i.e. V is an immediate neighbour of $P$ and $U$; So, $U$ belongs to Punjab.
IX. Both the neighbours of $V$ are facing towards centre i.e. $\mathrm{P}, \mathrm{U}$ are facing towards the centre. S is also facing towards centre
X. Clearly R, Q, T, W \& V facing opposite direction to the centre
XI. From the above information, it's clear that V is from Rajasthan and the person from Goa is $R$.

20. Ans. A.

P, U; P belong to Delhi, U belongs to Punjab
From the above information
I. There are eight people $P, Q, R, S, T, U, V \& W$. They belong to six states viz. Delhi, Haryana, Bihar, Rajasthan, Punjab \& Goa
II. There are two persons from Bihar viz. W \& T and two persons from Rajasthan.
III. There are three persons between P \& S; S belongs to Haryana; S \& P both are facing towards the centre
IV. W \& T both are immediate neighbours of S;
$V$. The person from Punjab is sitting $2^{\text {nd }}$ left of $P$; W, one person from Bihar is an immediate neighbour of the person from Punjab i.e. W is sitting $3^{\text {rd }}$ left of P.
VI. T, another person from Bihar is an immediate neighbour of Q ; Q is from Rajasthan
VII. The person from Goa is immediate neighbour of Q and one person from Delhi; clearly, P is from Delhi
VIII. $V$ is an immediate neighbour of $U$ and the person from Delhi; i.e. V is an immediate neighbour of P and U ; So, U belongs to Punjab.
IX. Both the neighbours of $V$ are facing towards centre i.e. $P, U$ are facing towards the center. $S$ is also facing towards centre
X. Clearly R, Q, T, W \& V facing opposite direction to the centre
XI. From the above information, it's clear that V is from Rajasthan and the person from Goa is R.

21. Ans. E.

C likes Yellow and is staying on an odd numbered floor. Three persons are staying between C and B. $B$ lives above C. So $B$ either lives on $7^{\text {th }}$ or $5^{\text {th }}$ floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 |  |  |
| 3 | C |  |
| 2 |  |  |
| 1 |  | C |

Two floors are between B and E who likes Brown. E doesn't staying on top floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 | E/Brown |  |
| 3 | C |  |
| 2 |  | E/Brown |
| 1 |  | C |

The number of floors between $B$ and $A$ is same as $C$ and $D$. A lives above $D$ but below $B$. From this statement case 2 gets rejected and we get two cases of case 1 .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D |  |
| 1 |  | D |

G likes White and lives below E .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D | G/White |
| 1 | G/White | D |

At least one person is staying between $F$ and $A$ so $F$ lives on $8^{\text {th }}$ floor. One floor is between $F$ and $H$ who likes Red. So case 1A gets rejected. Two floors are between $G$ and the one who likes Pink. Then A likes Pink.

| Floor | Case 1B |
| :--- | :--- |
| 8 | F |
| 7 | B |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C |
| 2 | G/White |
| 1 | D |

The one who likes Blue is staying just above the one who likes Black. So F likes Blue and B likes Black. C doesn't like Silver then C likes Yellow and D likes Silver.
Here is the final arrangement:

| Floor | Case 1B |
| :--- | :--- |
| 8 | F/Blue |
| 7 | B/Black |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C/Yellow |
| 2 | G/White |
| 1 | D/Silver |

All the persons are staying on even numbered floor except D.
Hence, option E.
22. Ans. C.

C likes Yellow and is staying on an odd numbered floor. Three persons are staying between C and B. $B$ lives above C. So B either lives on $7^{\text {th }}$ or $5^{\text {th }}$ floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 |  |  |
| 3 | C |  |
| 2 |  |  |
| 1 |  | C |

Two floors are between B and E who likes Brown. E doesn't staying on top floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 | E/Brown |  |
| 3 | C |  |
| 2 |  | E/Brown |
| 1 |  | C |

The number of floors between $B$ and $A$ is same as $C$ and $D$. A lives above $D$ but below $B$. From this statement case 2 gets rejected and we get two cases of case 1.

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D |  |
| 1 |  | D |

G likes White and lives below E .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D | G/White |
| 1 | G/White | D |

At least one person is staying between $F$ and $A$ so $F$ lives on $8^{\text {th }}$ floor. One floor is between $F$ and $H$ who likes Red. So case 1A gets rejected. Two floors are between $G$ and the one who likes Pink. Then A likes Pink.

| Floor | Case 1B |
| :--- | :--- |
| 8 | F |
| 7 | B |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C |
| 2 | G/White |
| 1 | D |

The one who likes Blue is staying just above the one who likes Black. So F likes Blue and B likes Black. C doesn't like Silver then C likes Yellow and D likes Silver.

## Here is the final arrangement:

| Floor | Case 1B |
| :--- | :--- |
| 8 | F/Blue |
| 7 | B/Black |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C/Yellow |
| 2 | G/White |
| 1 | D/Silver |

C likes Yellow.
Hence, option C.
23. Ans. C.

C likes Yellow and is staying on an odd numbered
floor. Three persons are staying between C and B .
$B$ lives above C. So B either lives on $7^{\text {th }}$ or $5^{\text {th }}$ floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 |  |  |
| 3 | C |  |
| 2 |  |  |
| 1 |  | C |

Two floors are between B and E who likes Brown. E doesn't staying on top floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 | E/Brown |  |
| 3 | C |  |
| 2 |  | E/Brown |
| 1 |  | C |

The number of floors between $B$ and $A$ is same as $C$ and $D$. A lives above $D$ but below $B$. From this statement case 2 gets rejected and we get two cases of case 1 .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D |  |
| 1 |  | D |

G likes White and lives below E .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D | G/White |
| 1 | G/White | D |

At least one person is staying between $F$ and $A$ so $F$ lives on $8^{\text {th }}$ floor. One floor is between $F$ and $H$ who likes Red. So case 1A gets rejected. Two floors are between G and the one who likes Pink. Then A likes Pink.

| Floor | Case 1B |
| :--- | :--- |
| 8 | F |
| 7 | B |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C |
| 2 | G/White |
| 1 | D |

The one who likes Blue is staying just above the one who likes Black. So F likes Blue and B likes Black. C doesn't like Silver then C likes Yellow and D likes Silver.

## Here is the final arrangement:

| Floor | Case 1B |
| :--- | :--- |
| 8 | F/Blue |
| 7 | B/Black |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C/Yellow |
| 2 | G/White |
| 1 | D/Silver |

Three persons are staying between D and A .
Hence, option C.
24. Ans. A.

C likes Yellow and is staying on an odd numbered
floor. Three persons are staying between C and B .
$B$ lives above C. So B either lives on $7^{\text {th }}$ or $5^{\text {th }}$ floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 |  |  |
| 3 | C |  |
| 2 |  |  |
| 1 |  | C |

Two floors are between B and E who likes Brown. E doesn't staying on top floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 | E/Brown |  |
| 3 | C |  |
| 2 |  | E/Brown |
| 1 |  | C |

The number of floors between $B$ and $A$ is same as $C$ and $D$. A lives above $D$ but below $B$. From this statement case 2 gets rejected and we get two cases of case 1 .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D |  |
| 1 |  | D |

G likes White and lives below E .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D | G/White |
| 1 | G/White | D |

At least one person is staying between $F$ and $A$ so $F$ lives on $8^{\text {th }}$ floor. One floor is between $F$ and $H$ who likes Red. So case 1A gets rejected. Two floors are between G and the one who likes Pink. Then A likes Pink.

| Floor | Case 1B |
| :--- | :--- |
| 8 | F |
| 7 | B |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C |
| 2 | G/White |
| 1 | D |

The one who likes Blue is staying just above the one who likes Black. So $F$ likes Blue and $B$ likes Black. C doesn't like Silver then C likes Yellow and D likes Silver.
Here is the final arrangement:

| Floor | Case 1B |
| :--- | :--- |
| 8 | F/Blue |
| 7 | B/Black |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C/Yellow |
| 2 | G/White |
| 1 | D/Silver |

D likes Silver.
Hence, option A.
25. Ans. D.

C likes Yellow and is staying on an odd numbered floor. Three persons are staying between C and B . $B$ lives above C. So B either lives on $7^{\text {th }}$ or $5^{\text {th }}$ floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 |  |  |
| 3 | C |  |
| 2 |  |  |
| 1 |  | C |

Two floors are between B and E who likes Brown. E doesn't staying on top floor.

| Floor | Case 1 | Case 2 |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B |  |
| 6 |  |  |
| 5 |  | B |
| 4 | E/Brown |  |
| 3 | C |  |
| 2 |  | E/Brown |
| 1 |  | C |

The number of floors between $B$ and $A$ is same as $C$ and $D$. A lives above $D$ but below $B$. From this statement case 2 gets rejected and we get two cases of case 1 .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D |  |
| 1 |  | D |

G likes White and lives below E .

| Floor | Case 1A | Case 1B |
| :--- | :--- | :--- |
| 8 |  |  |
| 7 | B | B |
| 6 | A |  |
| 5 |  | A |
| 4 | E/Brown | E/Brown |
| 3 | C | C |
| 2 | D | G/White |
| 1 | G/White | D |

At least one person is staying between $F$ and $A$ so $F$ lives on $8^{\text {th }}$ floor. One floor is between $F$ and $H$ who likes Red. So case 1A gets rejected. Two floors are between G and the one who likes Pink. Then A likes Pink.

| Floor | Case 1B |
| :--- | :--- |
| 8 | F |
| 7 | B |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C |
| 2 | G/White |
| 1 | D |

The one who likes Blue is staying just above the one who likes Black. So F likes Blue and B likes Black. C doesn't like Silver then C likes Yellow and D likes Silver.

## Here is the final arrangement:

| Floor | Case 1B |
| :--- | :--- |
| 8 | F/Blue |
| 7 | B/Black |
| 6 | H/Red |
| 5 | A/Pink |
| 4 | E/Brown |
| 3 | C/Yellow |
| 2 | G/White |
| 1 | D/Silver |

One person is staying between A and C .
Hence, option D.
26. Ans. B.

Given statements: $\mathrm{P}>\mathrm{Q} \leq \mathrm{R}>\mathrm{Z} ; \mathrm{Y}>\mathrm{X}>\mathrm{P} \geq \mathrm{U}$; $\mathrm{Q} \geq \mathrm{S}<\mathrm{T}$
On combining: $\mathrm{P}>\mathrm{Q} \geq \mathrm{S}<\mathrm{T} ; \mathrm{Y}>\mathrm{X}>\mathrm{Q} \leq \mathrm{R}>\mathrm{Z}$ Conclusions:
I. $\mathrm{P}>\mathrm{S} \rightarrow$ True (as $\mathrm{P}>\mathrm{Q} \geq \mathrm{S} \rightarrow \mathrm{P}>\mathrm{S}$ )
II. $Z<T \rightarrow$ False(as $Z<R \geq Q \geq S<T \rightarrow$ thus
clear relation between $Z$ and $T$ cannot be
Determined)
Therefore, only conclusion I is true.
27. Ans. C.

Given statements: $\mathrm{Y} \leq \mathrm{K}<\mathrm{D}=\mathrm{S} ; \mathrm{D}<\mathrm{B}<\mathrm{O} ; \mathrm{A} \geq$ D < Z
On combining: $\mathrm{Y} \leq \mathrm{K}<\mathrm{D}<\mathrm{B}<\mathrm{O} ; \mathrm{A} \geq \mathrm{D}=\mathrm{S}$; $\mathrm{D}<$ Z
Conclusions:
i. A $>\mathrm{B} \rightarrow$ False (as $\mathrm{A} \geq \mathrm{D}<\mathrm{B} \rightarrow$ thus clear relation between $A$ and $B$ cannot be Determined)
ii. $Y<Z \rightarrow \operatorname{True}($ as $Y \leq K<D<Z \rightarrow Y<Z$ )

Therefore, only conclusion II is true.
28. Ans. E.

Given statements: $\mathrm{A}>\mathrm{C} ; \mathrm{G}>\mathrm{E} ; \mathrm{G} \leq \mathrm{C} ; \mathrm{R} \leq \mathrm{I} ; \mathrm{K} \leq$ I

On combining: $\mathrm{A}>\mathrm{C} \geq \mathrm{G}>\mathrm{E} ; \mathrm{K} \leq \mathrm{I} \geq \mathrm{R}$ Conclusions:
i. $A>G \rightarrow$ True (as $A>C \geq G \rightarrow A>G)$
ii. $C>E \rightarrow$ True (as $C \geq G>E \rightarrow C>E$ )

Therefore, both conclusions are true.
29. Ans. C.

Given statements: $\mathrm{Z} \leq \mathrm{K}<\mathrm{D}=\mathrm{S} ; \mathrm{D}<\mathrm{A}<\mathrm{O} ; \mathrm{G} \geq$ D < R
On combining: $\mathrm{Z} \leq \mathrm{K}<\mathrm{D}<\mathrm{A}<\mathrm{O} ; \mathrm{S}=\mathrm{D}<\mathrm{R} ; \mathrm{G} \geq$ D < R
Conclusions:
i. $G>A \rightarrow$ False (as $G \geq D<A \rightarrow$ clear relation
between $G$ and $A$ cannot be Determined)
ii. $Z<R \rightarrow$ True (as $Z \leq K<D<R \rightarrow Z<R$ )

Therefore, only conclusion II is true.
30. Ans. A.

Given statements: $\mathrm{C} \leq \mathrm{R} \leq \mathrm{N}=\mathrm{M} \geq \mathrm{F} ; \mathrm{Q} \geq \mathrm{M}<\mathrm{O}$;
$\mathrm{D} \geq \mathrm{L} ; \mathrm{C} \geq \mathrm{D} \leq \mathrm{S} \geq \mathrm{Z}$
On combining: $\mathrm{C} \leq \mathrm{R} \leq \mathrm{N}=\mathrm{M}<\mathrm{O} ; \mathrm{F} \leq \mathrm{M}=\mathrm{N} \geq \mathrm{R}$ $\geq \mathrm{C} \geq \mathrm{D} \leq \mathrm{S} \geq \mathrm{Z}$
Conclusions:
i. $R \leq F \rightarrow$ False (as $F \leq M=N \geq R \rightarrow$ clear relation between $R$ and $F$ cannot be Determined)
ii. $\mathrm{C}<\mathrm{Q} \rightarrow$ false (as $\mathrm{C} \leq \mathrm{R} \leq \mathrm{N}=\mathrm{M} \leq \mathrm{Q} \rightarrow \mathrm{C} \leq \mathrm{Q}$ )

Therefore, None is true.
31. Ans. B.

32. Ans. B.

A possible Venn-diagram is:


Another possible Venn-diagram is :


All the given statements are positive so there is no possibility for negative conclusion or given Venndiagram did not follows I conclusion. For conclusion II all the positive statement can ovelap each other. Hence conclusion II follows. Hence option B). is correct.
33. Ans. B.


Only conclusion II is follow. Hence, option B.
Conclusion I is not having some definite information. It is a case of 'can be or can not be'. So, it does not follow.
34. Ans. D.


Conclusion I and II does not follow from the diagram.
35. Ans. C.


Conclusion I does not follow from the basic diagram.
For conclusion II:


Conclusion II does not follow.

## 36. Ans. A.

I is implicit, as the statement shows that importance is not being given where it has to be given. Il is not implicit as it is not known from the statement whether the importance given to body is deserved or not. 3 is not implicit, as it is out of context. There's a difference between the brain and the mind. One should not confuse the two. 37. Ans. D.

The statement says that the high pressure boilers are hazardous and that's why they are strictly regulated with special laws. Conclusion 1 talks about availability although the statement does not relate to the availability. Conclusion 2 talks about the rarity of high pressure boilers although the statement does not mention it anywhere. Hence, option $D$ is the correct option.
38. Ans. A.

Only course of action I follows. The Indians, or as a matter of fact anyone else, can lodge a complaint against the manufacturers for the inaccurate information. Courses of action II and III do not follow as both of them are rather extreme steps. It does not make sense for the Chinese government to issue an apology for a mistake committed by a Chinese manufacturer. Similarly, expecting the Canadian people to stop buying Chinese products simply because one manufacturer from China gave out incorrect information is not a feasible course of action. Therefore, option (A) is the correct answer. 39. Ans. B.

Both inferences I and III follow. Because there is a shortage of IT professionals in Japan, they want to recruit people from India. Also, the given statement says that Japan's IT infrastructure is rapidly
expanding, from which we can conclude that the IT industry in Japan is growing by leaps and bounds. Inference II does not follow because the given statement gives us no information on whether IT professionals from India are better than professionals from other countries. Therefore, option B is the correct answer.
40. Ans. B.

The answer is B. Almost all the options are in support with the passage. As B underlines the main cause, it is the strongest argument among all the given options.
41. Ans. E.


The code has been generated by arranging the words in alphabet order
Similarly for 'covers ten percent of earth' will be coded as Covers earth of percent ten
43. Ans. B.

The code for outside is - ju
The code for it/is - ha/no
Hence, the code for dark is 'ti'
So, option B is correct.
44. Ans. D.

From I and II,
Not all of them are facing the centre. Therefore, I and II together are sufficient.


From I and III,
Not all of them are facing the centre. Therefore, I and III together are sufficient to answer.


From II and III,
Not all of them are facing the centre. Therefore, II and III together are sufficient

45. Ans. A.

PIGEON

## From Statement I -

I. O is placed fourth to the right of P . G is not placed immediately next to either P or O .
$P_{-} G_{-} \mathrm{O}_{-}$
From Statement II -
II. N is placed immediately next (either left or right) to O. E is placed immediately next (either left or right) to G .
N O
O N
by combining both I \& II Statement we can conclude -
P_GEON
PIGEON
Hence, statement I and II are sufficient to answer the question, while the data in statement III alone are not sufficient to answer the question.
46. Ans. D.


Hence, P is the grandfather-in-law of Q . 47. Ans. E.

From all these three statements the gender of $M$ can't be determined. Hence, we can't find out how $M$ is related to $R$.
48. Ans. A.

From I, The arrangement can be shown,

| 5 | J |
| :---: | :---: |
| 4 | I |
| 3 | L |
| 2 | K |
| 1 | M |
| Ground <br> Floor |  |

From II,
More than one arrangement is possible.
Hence, the question can be answered From I alone.
49. Ans. A.


Point G is 4 m to the east from Point A
50. Ans. B.


If point G is 4 m to the north of Point H , then the distance between H and D will be 8 m
51. Ans. C.

Let, the total monthly income be Rs. ' $x$ '
Amount spent on rent $=$ Rs. $0.2 x$
Remaining monthly income $=$ Rs. $0.8 x$
Amount spent on food $=0.25 \times 0.8 x=0.2 x$
Amount deposited on savings account $=$ Rs. $0.48 x$
So, $0.2 x+0.2 x+a+0.48 x=x$
$a=0.12 x$
$a=12 \%$ of $x$

Now,

$$
8294.4=\frac{0.48 \times \times 7.2 \times 5}{100}
$$

$=829440=17.28 \mathrm{x}$
$x=$ Rs. 48000
So, $\mathrm{a}=12 \%$ of x
=Rs. 5760
So option (c) is the correct answer.
52. Ans. C.

Let, the distance between point $X$ and $Y$ be ' $d$ ' km
For boatman A,
$=\frac{0.5 \mathrm{~d}}{21}+\frac{0.5 \mathrm{~d}}{\mathrm{x}}=2.4$

For boatman B,
Upstream speed $=21-3=18 \mathrm{~km} / \mathrm{hr}$
So, $\frac{\mathrm{d}}{18}=2+\frac{20}{60}$
So, $\frac{\mathrm{d}}{18}=\frac{7}{3} ; \mathrm{d}=42 \mathrm{~km}$
Now, putting the value of d
$=\frac{0.5 \times 42}{21}+\frac{0.5 \times 42}{x}=2.4$
$=\frac{21}{21}+\frac{21}{x}=2.4$
$=1+\frac{21}{x}=2.4$
$\frac{21}{x}=1.4$
$=\mathrm{x}=15 \mathrm{~km} / \mathrm{hr}$
So option (c) is the correct answer.
53. Ans. D.

According to the question,
12 men can complete a work in 10 days, hence
amount of work done by 1 man $=\frac{1}{120}$
Similarly work done by one woman $=\frac{1}{240}$
Total work done by 8 men and 4 women in 6 days
$=6\left(\frac{8}{120}+\frac{4}{240}\right)=6\left(\frac{1}{15}+\frac{1}{60}\right)=\frac{5 \times 6}{600}=\frac{1}{2}$
From $7^{\text {th }}$ day onwards 8 men and 15 women will start working
Hence amount of work done on one day
$=\frac{8}{120}+\frac{15}{240}=\frac{31}{240}$
Hence time taken to complete the work
$=\frac{\frac{\left(\frac{1}{2}\right)}{31}}{240}=\frac{240}{62}=3 \frac{27}{31}$ days
Hence total time taken $=6+3 \frac{27}{31}=9 \frac{27}{31}$ days
So option (d) is the correct answer.
54. Ans. B.

No. of female employees in TATA Solar $=840$
\% of female employees in TATA Solar= 100-
$(27+22+16)=35 \%$
$35 \%=840$
$100 \%=2400$
Therefore total female employees $=2400$
And total male employees $=5200-2400=2800$

| company | male | female |
| :---: | :---: | :---: |
| TATA Retail | 392 | 648 |
| TATA Life | 700 | 384 |
| TATA Logistic | 840 | 528 |
| TATA Solar | 308 | 840 |
| TATA Steel | 560 | 0 |
| TOTAL | 2800 | 2400 |

The total number of male employees in these three subsidiaries is TATA Retail, TATA Life and TATA Logistic $=392+700+840=1932$
55. Ans. B.

No. of female employees in TATA Solar $=840$
\% of female employees in TATA Solar= 100-
$(27+22+16)=35 \%$
$35 \%=840$
$100 \%=2400$
Therefore total female employees $=2400$
And total male employees $=5200-2400=2800$

| company | male | female |
| :---: | :---: | :---: |
| TATA Retail | 392 | 648 |
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| TATA Logistic | 840 | 528 |
| TATA Solar | 308 | 840 |
| TATA Steel | 560 | 0 |
| TOTAL | 2800 | 2400 |

Total number of male employees working in TATA Life and TATA Logistic $=1540$
The total number of employees working in these two firms=2452
REQUIRED \%=1540*100/2452=62.8\%
56. Ans. C.

No. of female employees in TATA Solar $=840$
\% of female employees in TATA Solar= 100-
$(27+22+16)=35 \%$
$35 \%=840$
$100 \%=2400$
Therefore total female employees $=2400$
And total male employees $=5200-2400=2800$

| company | male | female |
| :---: | :---: | :---: |
| TATA Retail | 392 | 648 |
| TATA Life | 700 | 384 |
| TATA Logistic | 840 | 528 |
| TATA Solar | 308 | 840 |
| TATA Steel | 560 | 0 |
| TOTAL | 2800 | 2400 |

The approx. average number of employees (male and female) who work in TATA Logistic, TATA Solar and TATA Steel
together $=560+840+528+308+840 / 3=3076 / 3==$ 1025
57. Ans. A.

No. of female employees in TATA Solar $=840$
\% of female employees in TATA Solar= 100-
$(27+22+16)=35 \%$
$35 \%=840$
$100 \%=2400$
Therefore total female employees $=2400$
And total male employees $=5200-2400=2800$

| company | male | female |
| :---: | :---: | :---: |
| TATA Retail | 392 | 648 |
| TATA Life | 700 | 384 |
| TATA Logistic | 840 | 528 |
| TATA Solar | 308 | 840 |
| TATA Steel | 560 | 0 |
| TOTAL | 2800 | 2400 |

$10 \%$ male of TATA Steel $=560 * 10 / 100=56$
The total number of female employees in TATA
Life $=56+384=440$
58. Ans. E.

No. of female employees in TATA Solar $=840$
\% of female employees in TATA Solar= 100-
$(27+22+16)=35 \%$
$35 \%=840$
$100 \%=2400$
Therefore total female employees $=2400$
And total male employees $=5200-2400=2800$

| company | male | female |
| :---: | :---: | :---: |
| TATA Retail | 392 | 648 |
| TATA Life | 700 | 384 |
| TATA Logistic | 840 | 528 |
| TATA Solar | 308 | 840 |
| TATA Steel | 560 | 0 |
| TOTAL | 2800 | 2400 |

Required \%=(2800-2400)*100/2400=16.66\% 59. Ans. D.
$\sqrt{729}+?=\frac{22}{5} \times 125$
$27+?=22 \times 25$
$?=550-27$
$?=523$
So option (d) is the correct answer.
60. Ans. D.
$\frac{21}{30} \times \frac{55}{100} \times 4200=? \times 700$
$\frac{21}{30} \times 11 \times \frac{5}{100} \times 30 \times 14=? \times 5 \times 140$
? $=\frac{21 \times 11 \times 5 \times 140}{5 \times 140 \times 100}$
$?=21 \times \frac{11}{100}=2.31$
So option (d) is the correct answer.
61. Ans. A.
$21^{3}=9261,5^{3}=125,18^{3}=5832$
$?=\sqrt[3]{9261}-\sqrt[3]{125}+\sqrt[3]{5832}$
$?=21-5+18=34$
So option (a) is the correct answer.
62. Ans. B.
$?^{2} \times 6=55 \times 53-20 \times 23+6671$.
$?^{2} \times 6=2915-460+6671$
$?^{2} \times 6=9126$
$?^{2}=1521$
? $=39$
So option (b) is the correct answer.
63. Ans. B.
$95 \%$ of $\sqrt{14400}+50 \%$ of $16^{2}=?+214$
$\frac{95}{100} \times \sqrt{14400}+\frac{50}{100} \times 16^{2}=?+214$
$\frac{95}{100} \times 120+\frac{1}{2} \times 256=?+214$
$19 \times 6+128=?+214$
$114+128=?+214$
$242=$ ? +214
$?=242-214=28$
So option (b) is the correct answer.
64. Ans. B.

|  | Number of female <br> customers live in <br> building | Number of male <br> customers live <br> in building | Number of female <br> customers who are <br> part timers | Number of male <br> customers who <br> are part timers |
| :--- | :--- | :--- | :--- | :--- |
| DPS | $23 \times 12=276$ | $28 \times 12=336$ | $708-276=432$ | $696-336=360$ |
| VBS | $32 \times 12=384$ | $31 \times 12=372$ | $852-384=468$ | $792-372=420$ |
| HPS | $38 \times 12=456$ | $33 \times 12=396$ | $960-456=504$ | $876-396=480$ |
| MS | $19 \times 12=228$ | $24 \times 12=288$ | $528-228=300$ | $612-288=324$ |
| RPS | $26 \times 12=312$ | $23 \times 12=276$ | $696-312=384$ | $636-276=360$ |

The number of part timers male customers in VBS $=420$
The number of part timers female customers in VBS $=468$
Required difference $=468-420=48$

## So option (b) is the correct answer.

65. Ans. D.

|  | Number of female <br> customers live in <br> building | Number of male <br> customers live <br> in building | Number of female <br> customers who are <br> part timers | Number of male <br> customers who <br> are part timers |
| :--- | :--- | :--- | :--- | :--- |
| DPS | $23 \times 12=276$ | $28 \times 12=336$ | $708-276=432$ | $696-336=360$ |
| VBS | $32 \times 12=384$ | $31 \times 12=372$ | $852-384=468$ | $792-372=420$ |
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| MS | $19 \times 12=228$ | $24 \times 12=288$ | $528-228=300$ | $612-288=324$ |
| RPS | $26 \times 12=312$ | $23 \times 12=276$ | $696-312=384$ | $636-276=360$ |

The number of female customers who are part timers in RPS = 384
The number of male customers who are part timers in RPS $=360$
Required average $=\frac{384+360}{12}=62$

## So option (d) is the correct answer.

66. Ans. A.

|  | Number of female <br> customers live in <br> building | Number of male <br> customers live <br> in building | Number of female <br> customers who are <br> part timers | Number of male <br> customers who <br> are part timers |
| :--- | :--- | :--- | :--- | :--- |
| DPS | $23 \times 12=276$ | $28 \times 12=336$ | $708-276=432$ | $696-336=360$ |
| VBS | $32 \times 12=384$ | $31 \times 12=372$ | $852-384=468$ | $792-372=420$ |
| HPS | $38 \times 12=456$ | $33 \times 12=396$ | $960-456=504$ | $876-396=480$ |
| MS | $19 \times 12=228$ | $24 \times 12=288$ | $528-228=300$ | $612-288=324$ |
| RPS | $26 \times 12=312$ | $23 \times 12=276$ | $696-312=384$ | $636-276=360$ |

The number of male customers who are part timers in DPS = 360
The number of male customers who are part timers in HPS $=480$
Required ratio $=\frac{360}{480}=\frac{3}{4}$

## So option (a) is the correct answer.

## 67. Ans. E.

|  | Number of female <br> customers live in <br> building | Number of male <br> customers live <br> in building | Number of female <br> customers who are <br> part timers | Number of male <br> customers who <br> are part timers |
| :--- | :--- | :--- | :--- | :--- |
| DPS | $23 \times 12=276$ | $28 \times 12=336$ | $708-276=432$ | $696-336=360$ |
| VBS | $32 \times 12=384$ | $31 \times 12=372$ | $852-384=468$ | $792-372=420$ |
| HPS | $38 \times 12=456$ | $33 \times 12=396$ | $960-456=504$ | $876-396=480$ |
| MS | $19 \times 12=228$ | $24 \times 12=288$ | $528-228=300$ | $612-288=324$ |
| RPS | $26 \times 12=312$ | $23 \times 12=276$ | $696-312=384$ | $636-276=360$ |

The number of female customers who are part timers in MS = 300
The number of male customers who are part timers in MS = 324

Required percentage $=\frac{300}{324} \times 100=92.6 \%$

## So option (e) is the correct answer.

68. Ans. C.

|  | Number of female <br> customers live in <br> building | Number of male <br> customers live <br> in building | Number of female <br> customers who are <br> part timers | Number of male <br> customers who <br> are part timers |
| :--- | :--- | :--- | :--- | :--- |
| DPS | $23 \times 12=276$ | $28 \times 12=336$ | $708-276=432$ | $696-336=360$ |
| VBS | $32 \times 12=384$ | $31 \times 12=372$ | $852-384=468$ | $792-372=420$ |
| HPS | $38 \times 12=456$ | $33 \times 12=396$ | $960-456=504$ | $876-396=480$ |
| MS | $19 \times 12=228$ | $24 \times 12=288$ | $528-228=300$ | $612-288=324$ |
| RPS | $26 \times 12=312$ | $23 \times 12=276$ | $696-312=384$ | $636-276=360$ |

The number of female customers who live in building $=276+384+456+228+312=1656$
The number of male customers who live in building $=336+372+396+288+276=1668$
Required difference $=1668-1656=12$

## So option (c) is the correct answer.

## 69. Ans. A.

Number of ways in which the basketball team is
selected $={ }_{3}^{10} \mathrm{C} \times{ }_{2}^{8} \mathrm{C}=120 \times 28=3360$
Number of ways in which the volleyball team is
selected $={ }_{4}^{8} \mathrm{C} \times{ }_{2}^{7} \mathrm{C}=70 \times 21=1470$
Required difference $=3360-1470=1890$
So option (a) is the correct answer.
70. Ans. A.

According to the given equations:
I. $10 x^{2}+37 x+30=0$
$10 x^{2}+12 x+25 x+30=0$
$2 x(5 x+6)+5(5 x+6)=0$
$(2 x+5)(5 x+6)=0$
$x=-\frac{5}{2},-\frac{6}{5}$
II. $y^{2}+21 y+80=0$
$y^{2}+5 y+16 y+80=0$
$y(y+5)+16(y+5)=0$
$(y+16)(y+5)=0$
$y=-16,-5$
After comparison of both equations, the conclusion
is $\mathrm{x}>\mathrm{y}$
So option (a) is the correct answer.
71. Ans. D.

According to the given equations:
I. $x^{2}-11 x+10=0$
$x^{2}-x-10 x+10=0$
$x(x-1)-10(x-1)=0$
$(x-10)(x-1)=0$
$x=10,1$
II. $y^{2}+6 y-7=0$
$y^{2}+7 y-y-7=0$
$y(y+7)-1(y+7)=0$
$(y+7)(y-1)=0$
$y=-7,1$
After comparison of both equations, the conclusion is $\mathrm{x} \geq \mathrm{y}$
So option (d) is the correct answer.
72. Ans. B.

According to the given equations:
I. $x^{2}+17 x-168=0$
$x^{2}-7 x+24 x-168=0$
$x(x-7)+24(x-7)=0$
$(x+24)(x-7)=0$
$\mathrm{x}=-24,7$
II. $\mathrm{y}^{2}-32 \mathrm{y}+255=0$
$y^{2}-17 y-15 y+255=0$
$y(y-17)-15(y-17)=0$
$(y-15)(y-17)=0$
$y=15,17$
After comparison of both equations, the conclusion is $\mathrm{x}<\mathrm{y}$
So option (b) is the correct answer.
73. Ans. B.

According to the given equations:
I. $x^{2}+22 x+72=0$
$x^{2}+4 x+18 x+72=0$
$x(x+4)+18(x+4)=0$
$(x+18)(x+4)=0$
$x=-18,-4$
II. $15 y^{2}+77 y+90=0$
$15 y^{2}+50 y+27 y+90=0$
$5 y(3 y+10)+9(3 y+10)=0 ;$
$(5 y+9)(3 y+10)=0$
$\mathrm{y}=-\frac{9}{5},-\frac{10}{3}$
After comparison of both equations, the conclusion is $\mathrm{x}<\mathrm{y}$
So option (b) is the correct answer.
74. Ans. B.

According to the given equations:
I. $x^{2}+31 x+234=0$
$x^{2}+18 x+13 x+234=0$
$x(x+18)+13(x+18)=0$
$(x+13)(x+18)=0$
$\mathrm{x}=-13,-18$
II. $y^{2}-9 y-22=0$
$\mathrm{y}^{2}+2 \mathrm{y}-11 \mathrm{y}-22=0$
$y(y+2)-11(y+2)=0$
$(y+2)(y-11)=0$
$\mathrm{y}=-2,11$
After comparison of both equations, the conclusion is $\mathrm{x}<\mathrm{y}$
So option (b) is the correct answer.
75. Ans. D.

Total quantity of liquid B in both mixtures $=30$
liters
Let the quantity of liquid A in mixture $\mathrm{X}=\mathrm{x}$ liters
Then, the quantity of liquid A in mixture $\mathrm{Y}=\mathrm{x}+15$
liters
So,
$x+x+15+30=50+35$
$2 x=40 ; x=20$ liters
Quantity of liquid $A$ in mixture $X=20$ liters
Quantity of liquid A in mixture $Y=20+15=35$
liters
Quantity of liquid B in mixture $\mathrm{X}=35-20=15$
liters
Quantity of liquid $B$ in mixture $Y=15$ liters
Required ratio $=35+20 \%$ of $20: 15+20 \%$ of 15 $=35+4: 15+3=39: 18=13: 6$

## So option (d) is the correct answer.

76. Ans. D.

Marked price of the article = Rs. 2200
Selling price of the article = Rs. 1881
Overall discount $=2200-1881=$ Rs. 319
Overall discount $\%=\frac{319}{2200} \times 100=14.5$
Since, the successive discounts are $x \%$ and $y \%$
So, overall discount $=x+y-\frac{x y}{100}$
$=14.5=x+2 x-x \times \frac{2 x}{100}$
$=14.5=\mathrm{x}+2 \mathrm{x}-\frac{2 \mathrm{x}^{2}}{100}$
=
$=1450=300 \mathrm{x}-2 \mathrm{x}^{2}$
$=x^{2}-150 x+725=0$
$=x^{2}-5 x-145 x+725=0$
$=x(x-5)-145(x-5)=0$
$=(x-5)(x-145)=0$
So, $x=5, x=145$
Since, $x=145 \%$ discount is not possible
So, $x=5 \%$
So option (d) is the correct answer.
77. Ans. C.

Let x be the individual weight of first six boys.
Total weight of six boys $=6^{X}$
Weight of $7^{\text {th }}$ boy $=\frac{98}{100} x$
Weight of $8^{\text {th }}$ boy $=\frac{104}{100} x$
Weight of $9^{\text {th }}$ boy $=\frac{106}{100} x$
Weight of $10^{\text {th }}$ boy $=\frac{108}{100} x$
Then, $50.8 \times 10=6$
$x+\frac{98}{100} x+\frac{104}{100} x+\frac{106}{100} x+\frac{108}{100} x$
$x=50 \mathrm{~kg}$
Now, weight of $7^{\text {th }}$ boy $=\frac{98}{100} \times 50=49 \mathrm{~kg}$
Weight of $8^{\text {th }}$ boy $=\frac{104}{100} \times 50=52 \mathrm{~kg}$
Weight of $9^{\text {th }}$ boy $=\frac{106}{100} \times 50=53 \mathrm{~kg}$

Weight of $10^{\text {th }}$ boy $=\frac{108}{100} \times 50=54$
Therefore, the average weight of the group when two new boys of weights 54 kg and 56 kg respectively join the group and six boys having equal weights leave the group,
$=\frac{49+52+53+54+54+56}{6}=53 \mathrm{~kg}$
78. Ans. C.

Sale on January $=$ Rs. 3250
Sale on February = Rs. 2955
Sale on March = Rs. 3682
Sale on April = Rs. 4943
Let $x$ be the sale on May, then sale on June and July are $2 x$ and $x$ respectively.
So, 3096
$\times 7=3250+2955+3682+4943+x+2 x+x$
$x=1710.5$
Then, sale on July $=x=1710.5$
Therefore, difference between sale on March and July $=3682-1710.5=$ Rs.1971.5.
79. Ans. A.

Let the age of father is $X$
Elder son age $=y$
So, $\mathrm{X}-10=2(\mathrm{y}-10)$
$X-Y=15$
So, $X=40 \& Y=25$
Age of younger son Is $=25-3=22$
80. Ans. E.

The concentration of alcohol in the resulting mixture

$$
=\frac{4 \times 0.25+6 \times 0.5+8 \times 0.75}{4+6+8}=\frac{10}{18}=\frac{5}{9}
$$

Ratio of Alcohol : Water = 5:4
81. Ans. E.

The Pattern is:-1
$(1 \times 1)+1^{2}=2$
$(2 \times 3)+3^{2}=15$
$(15 \times 5)+5^{2}=100$
$(100 \times 7)+7^{2}=749$
$(749 \times 9)+9^{2}=6822$
Thus, the missing number is 6822
So option (e) is the correct answer.
82. Ans. A.

The Pattern is:- 17
$(1 \times 1)+1^{2}=2$
$(2 \times 3)+3^{2}=15$
$(15 \times 5)+5^{2}=100$
$(100 \times 7)+7^{2}=749$
$(749 \times 9)+9^{2}=6822$
Thus, the missing number is 41475
So option (a) is the correct answer.
83. Ans. E.

The Pattern is:-
24
$(24-5) \times 5=95$
$(95-7) \times 7=616$
$(616-9) \times 9=5463$
$(5463-11) \times 11=59972$
$(59972-13) \times 13=779467$
Thus, the missing number is 779467
So option (e) is the correct answer.
84. Ans. A.

The Pattern is:-
30155
$30155-17^{3}+1=25243$
$25243-16^{3}+2=21149$
$21149-15^{3}+3=17777$
$17777-14^{3}+4=15037$
$15037-13^{3}+5=12845$
Thus, the missing number is 12845
So option (a) is the correct answer.
85. Ans. B.

The Pattern is:-
90
$90+8^{2}=154$
$154+10^{2}=254$
$254+12^{2}=398$
$398+14^{2}=594$
$594+16^{2}=850$
Thus, the missing number is 850
So option (b) is the correct answer.
86. Ans. B.

Total number of bikes sold by Bajaj $=0.18 \times 36000$ $=6480$
Total number of bikes sold by Hero $=0.24 \times 36000$ $=8640$
Therefore, number of Cruiser Bikes sold by Bajaj
$=\frac{7}{11+7} \times 6480=7 \times 360=2520$
Number of Cruiser Bikes sold by Hero
$=\frac{16}{11+16} \times 8640=16 \times 320=5120$;
Therefore, required ratio $=\frac{2520}{5120}=\frac{63}{128}$
So option (b) is the correct answer.
87. Ans. C.

Total number of bikes sold by Bajaj $=0.18 \times 36000$ $=6480$
Total number of bikes sold by Hero $=0.24 \times 36000$ $=8640$
Let, the number of Cruiser Bikes sold by Bajaj and the number of Cruiser Bikes sold by Honda be $x$ each.
So, $\frac{6480-x}{9000-x}=\frac{4}{7}$
$45360-7 x=36000-4 x$
$x=3120$
Number of Standard bikes sold by Honda = 9000 $3120=5880$
Therefore, required difference $=5880-3120=$ 2760
So option (c) is the correct answer.
88. Ans. D.

Total number of bikes sold by Honda $=0.25 \mathrm{x}$
$36000=9000$
Total number of bikes sold by Yamaha $=0.15 \mathrm{x}$ $36000=5400$
Total number of bikes sold by Ducati $=0.18 \mathrm{x}$ $36000=6480$
Therefore, required average
$=\frac{9000+5400+6480}{3}=\frac{20880}{3}=6960$
So option (d) is the correct answer.
89. Ans. B.

Total number of bikes sold by Ducati $=0.18 \mathrm{x}$ $36000=6480$
Number of Cruiser bikes sold by Ducati
$=\frac{5}{4+5} \times 6480=3600$
Price of one Ducati Cruiser Bike
$=\frac{450}{3600}=$ Rs. 0.125 crores $=12.5$ lakhs
$\frac{12.5}{4}=$
Therefore, price of one Standard Bike $=$ Rs
Rs. 3.125 lakhs
So option (b) is the correct answer.
90. Ans. E.

Percentage share of Ducati Bike $=18 \%$
Percentage share of Yamaha Bike $=15 \%$
Total percentage share $=18 \%+15 \%=33 \%$
Total share $=100 \%$
Also, we know that $100 \%=360$ degree
So, $33 \%$ would be $\frac{360}{100} \times 33=118.8 \cong 119$ degree
So option (e) is the correct answer.
91. Ans. B.

Grapes $=\frac{25}{100} \times 2840=710$
Oranges $=\frac{20}{100} \times(2840-710)=426$
Apples $=2840-(710+426)=1704$
Cost of one apple $=\frac{5}{4} \times 100=125$
Total cost of all the apples $=125^{\times} 1704=$ 213000
Hence, option (b) is the answer.
92. Ans. C.

A alone can do $=20$ days
Efficiency ratio of $\mathrm{A} \& \mathrm{~B}=4: 5$
Time required will be in ratio $=5: 4$
Hence $B$ alone will do it in = 16 days
LCM of $(16,20)=80$,Assume work size of 80 units 1 day work of $A=4$ units
1 day work of $B=5$ units
Work done by both in 4 days $=4^{*}(5+4)=36$ units
Work left $=80-36=44$ units
Now C takes 22 days to complete $=44$ units.
Hence time taken by C alone to complete the
work $=40$ days
93. Ans. D.

Let the filling capacity of the tank $=x \mathrm{~m}^{3}$
emptying capacity $=(x+15) \mathrm{m}^{3}$
$3000 / x-3000 /(x+15)=10$
$3000 x+45000-3000 x=10 x(x+15)$
$45000=10 x^{2}+150 x$
$x^{2}+15 x-4500=0$
$x=60,-75$ (neglected)
Emptying capacity $=x+15=75$
94. Ans. D.

Let the number of marbles received by Ramu's elder and younger sons be e and y respectively
$e>y \quad \therefore e^{2}>y^{2}$
$\therefore e^{3}+y^{3}=21\left(e^{2}-y^{2}\right)(e-y)$
Dividing by $e+y$, we get
$e^{2}-e y+y^{2}=21 e^{2}-42 e y+21 y^{2}$
$\Longrightarrow 20 e^{2}-41 e y+20 y^{2}=0$
$\Longrightarrow(5 e-4 y)(4 e-5 y)=0$
e > y
$\therefore \frac{e}{y}=\frac{5}{4}$
95. Ans. B.

Given,


Time gape passing $D_{1} D_{2}$ and $D_{2} G_{1}$ is $=30$ sec
Distance cover in $30 \mathrm{sec}=100 \mathrm{~m}$ (because speed of both the trains is same, so $100+100=200$ )
Speed $=\frac{100}{30}=\frac{10}{3} \mathrm{~m} / \mathrm{s}$


Distance cover by both the trains $=100+$
$\mathbf{1 0 0}=\mathbf{2 0 0 m}$ in $\mathbf{3 0} \mathbf{~ s e c}$
Remaining distance for $\mathrm{D}_{1} \mathrm{G}_{2}=100 \mathrm{~m}$
So, time $=\frac{100}{10} \times 3=30 \mathrm{sec}$
96. Ans. A.
profit $=\frac{\text { income-expenditure }}{\text { expenditure }} * 100$
$=40=(140-E) * 100 / E$
$=140-E=40 E / 100$
$=700=7 E$
$=\mathrm{E}=100$ crores
97. Ans. C.

Income $=$ expenditure $(100+$ profit $\%) / 100$
$=150(100+45 \%) / 100$ crores $=217.5$
crores $\approx 218$ crores
98. Ans. A.
keshri Pvt. Ltd income of $2009=(155 / 55) * 110=$ 2*155
expenditure of laxmi Pvt. Ltd. of 2008 $=(120 / 60) * 100=2 * 100$
percent keshri Pvt. Ltd income of 2009 is more than that of expenditure of laxmi Pvt. Ltd. of 2008 $=[(2 * 155-2 * 100) / 2 * 100] * 100=55 \%$ 99. Ans. B.

Income of keshri pvt Ltd. in $2008=140 \%$ of Expenditure
Given $40 \%$ of expenditure $=236$ crore
therefore $140 \%$ of expenditure $=236 * 140 / 40=$ 826 crore
As, income of keshri pvt Ltd. in 2008 is equal to expenditure of laxmipati pvt Itd in 2005
Therefore
profit of laxmipati Pvt. Ltd. of $2005=42 \% 826=$ 347 crore (approx)
100. Ans. B.

Required percent $=(55-40) * 100 / 40$
= 37.5\% $\approx 38 \%$
101. Ans. D.

Statement D can be interpreted from these lines, "By reducing the need for central intermediaries, it holds out the promise of processing transactions of various kinds more efficiently than today." Hence, option $D$ is the correct answer.
102. Ans. A.

Statement (i) can be interpreted from these lines,
"Central bank digital currency could start to replace the electronic payment systems that financial institutions use with each other. Statement (ii) is incorrect as blockchain technology is suggested as an alternative to digital transactions. Statement (iii) is also incorrect as it has not been stated in the passage.
103. Ans. C.

Statement (i) is incorrect which can be interpreted from these lines, "Its scarcity (hence some floor on its value) is purportedly guaranteed by the underlying technology..." Statement (ii) can be interpreted from these lines, The value of ordinary currencies is underwritten by governments and stabilized by central banks acting as trusted monopoly producers. Bitcoin and its rivals leave those vital roles vacant." Statement (iii) can be interpreted from these lines, "Moreover, bitcoin has no fundamental value as an asset...no ultimate assurance of liquidity or security." Hence, option C is the correct answer.
104. Ans. C.

It can be interpreted from the following lines of the passage, "Those stronger terms are justified, especially after the latest spell of wild price volatility." Hence, option C is the correct answer. 105. Ans. E.

Statement A is true which is obvious from the given line, "But as a reliable store of value, bitcoin is much less useful, because its volatility is so extreme." Statement B is also true as it has been stated in the second stanza that ". Moreover, bitcoin has no fundamental value as an asset-no stream of future income, no ultimate assurance of liquidity or security, and (unlike gold, say) no alternative use." Statement C is true which can be interpreted from the following lines, "Others have called it "the very definition of a bubble" and even "a fraud". Those stronger terms are justified, especially after the latest spell of wild price volatility." Statement D is true as bitcoin "can succeed in a limited way as a means of exchange and be used to execute certain kinds of transactions." Hence, option E is the correct answer.
106. Ans. A.

Statement (i) is incorrect as banks have been exploring applications of blockchain technology and it has nowhere been implied in the passage that banks are supportive of bitcoin. Since, it has been stated in the passage that "by reducing the need for central intermediaries, it holds out the promise of processing transactions of various kinds more efficiently than today", the vice-versa also holds true. Hence, option (ii) can be inferred from these lines. Statement (iii) is incorrect as it has been just introduced as a "radical" idea. Thus, we cannot conclude it as something imminent.
107. Ans. C.

Purposedly means in a purposed manner or purposely.
Seemingly means apparently.
Authentically means being so in fact.
Implicitly means indirectly or understood though not directly expressed.
Purportedly means believed to be the case.
Hence, supposedly which means presumed to be true is the most similar word.
108. Ans. E.

Exceptional means unusually excellent or superior.
Revolutionary means marked by or resulting in a radical change.
Complex means difficult to understand or being intricate.

Fundamental means basic.
Radical means departing markedly from the usual or customary.
On the contrary, conservative means averse to change or innovation and holding traditional values. Hence, option E is the correct answer 109. Ans. E.
'Little' carries a negative connotation and means hardly any or negligible. 'A little' carries a positive connotation and means 'some'. Since second part of the sentence mentions that 'fundamental values and cultural norms remain largely unquestioned', it can be concluded that something negative is being talked about. Thus, there would be no option for free and open inquiry. Thus, "little" defines the given situation and option E is correct.
110. Ans. C.

The proper noun "bible", requires the definite article 'the' before it. Whenever a classic or a holy book is being referred to, the article "the" must be used. Hence, option C is correct.
111. Ans. A.

In the above sentence, the example of our bio system is given when an intricately engineered bio system is talked about. To show possession here, "ours" will be used in place of "our". Hence, option A is correct.
112. Ans. C.

The correct option is C because the correct phrase that should be used here is 'make light of their difficulties.' It means 'trying to treat something as though it is not serious or important, when it in fact is.
113. Ans. E.

The phrase is correct and needs no change. The verb 'topped' does not need any preposition after it and the adjective 'early' and the noun
'performance' need no change thus option E is the correct answer.
114. Ans. A.

The correct preposition to be used with the verb 'hurried' is 'to' and not the others. 'Hurry to a place' means 'move to a place with great haste.' Thus option A is the correct answer.
115. Ans. C.

Option C is the correct answer because the correct phrase is 'rank and file' which means 'the ordinary members of an organization'.
116. Ans. A.

The part of the sentence that is most important in this sentence is 'a far cry.' It means 'vastly different from.' But here this phrase has not been used in
the correct way except option A. So option A is the correct answer.
117. Ans. C.

The correct sequence is ADCB.
The paragraph starts with the description of the event and what is the point to focus on, i.e.
firecrackers. This can only be followed by statement A) as it is the only statement which talks about firecrackers. It talks about the struggles people are suffering with. This is followed by statement D) which links New Year to another festival i.e.
Christmas. Statement D) is followed by statement C) as 'that' in this statement is Christmas and thus, this statement can come only after statement D).
Statement C) is followed by statement B) as it goes with the flow and also it is talking about the author himself.
118. Ans. E.

The correct sequence is CADB.
The paragraph starts with example of Lord Shiva in Hindu mythology. This can only be followed by statement C) as 'it' here is referring to Lord Shiva opening his third eye, as mentioned in the previous sentence. Statement c) is followed by statement A) as it moves the paragraph ahead by linking it to the main topic of the paragraph. Statement $A$ ) is followed by statement D) which further explains what has been said in statement A). Statement D) is followed by statement B) as it talks about 'empowerment' which is further elaborated in in the same statement.
119. Ans. A.

The correct sequence is CBAD.
The paragraph starts with describing some sysadmins enjoying humour. This is followed by statement C) which further describes the scene, this can be aptly followed by statement b) as it adds another such description but can come only after statement C) as it starts with the word 'another'. Statement B) is followed by statement A) which comes to the reason behind the on-going rounds of comments. This is followed by statement D) as 'that' here is referring to 'any computer' the previous statement has mentioned.
120. Ans. C.

The correct sequence is CADB.
The paragraph starts with describing the illusion of the return of a resilient Indian economy. This should be followed by C) mentioning what it has actually returned from, followed by A) mentioning the two disruptions followed by D) mentioning the effect of the restoration. The last sentence should
be B) talks about the same restoration and about the index mentioned.
121. Ans. B.

The correct sequence is DCBA.
The paragraph starts with mentioning about the cleanliness in Singapore and Japan which must be followed by $D$ which states the surprise one encounters at the place. Continuing the chain of thought, C presents the contradiction one sees in India. Between B and A, A comes latter as It carries the conjunction "but" which helps put forth a contrast of what is mentioned in B. Thus, the correct sequence is DCBA.
122. Ans. E.

The sentence talks about the complex policy of the America water laws and the "American water laws" has been used as a cause to show its effect on something which is mentioned in the latter part of the sentence. The latter part of the sentence mentions "water issues" of US, which is not easily fixable. "Not easily fixable" means "not easily corrected or repaired", hence there must have been some reason why that cannot be fixed. Amenable something which is manageable or controllable. Water issues may not have been managed or controlled due to complex water laws and that is why it is difficult to fix. Compliant which also means something which is manageable or amenable can fit in the sentence.
"irrelevant or not controversial" will not complete the sentence sensibly because if the water issues in the US are irrelevant or not controversial, the laws must not have been complex and may have got easily fixed which is contradictory to the given statement.
123. Ans. B.

The sentence talks about "drought and food security" which has pestered the region and in addition to that the climate and geography has worsened the matter and forced them to come to isolation. "Relegate and downgrade" are the two words which means to move down to a lower position are the most suitable word to be filled in the blank. "alleviates" which means to make less severe, will not complete the sentence sensibly. "Transgress" which means "to misbehave or to break the law" which does not fit in the context whatsoever.
124. Ans. D.

The sentence talks about the global countries are switching to clean energy which may slowdown and that is due to the Trump Administration's policies The sentence talks about the switching of the global
countries to clean energy may slow down due to the Trump Administration's policies and because of these policies clean energy will be debatable or contentious. Contentious means causing or likely to cause an argument; controversial. Debatable also fits in the context, which means open to discussion or argument. Unscathed will not complete the sentence sensibly because unscathed means undamaged. Hence, the answer is

## 125. Ans. A.

The sentence states that the current transportation system is not able to meet the demand however the advancement in technology may offer opportunities that will improve the system and as the improving of the system is mentioned it shows it must be upgraded. "Autonomous" which means self-governing or self-sufficient. And it indicates self-sufficient vehicles, biometrics. "Customize" cannot be used as "customization" is used in a context when a trivial modification is done and here innovation done in technology to improve the system is mentioned, thus it should be something significant. "Irresistible" is totally out of context. 126. Ans. D.
the sentence states that the national power grid usually gets crippled and that forced public service and private enterprises to shut down because citizens rioted in the street and since they rioted they must have been disgruntled which means angry or dissatisfied or unbridled which means uncontrolled; unconstrained. contented or amicable does not complete the sentence sensibly.
127. Ans. D.
'Waves' means a sudden occurrence of or increase in a phenomenon, feeling, or emotion, 'Perverse' means showing a deliberate and obstinate desire to behave in a way that is unreasonable or unacceptable, 'Swarms' means move somewhere in large numbers. 'Diverge' means (of a road, route, or line) separate from another route and go in a different direction. As the sentence is talking about Chinese immigrants i.e. a person who comes to live permanently in a foreign country, so they will be occurring in large numbers. So, 'Waves' and 'Swarms' fit contextually. Other options don't fit logically. Hence, option D is the correct answer. 128. Ans. B.

The adjective applicable in the blank would qualify the heat of the dessert and among the given options 'Torrid' and 'Oppressive' are two adjectives that are used before the heat. 'Torrid' means very hot and dry, 'Prosaic' means having or using the style or diction of prose as opposed to poetry;
lacking imaginativeness or originality, 'Oppressive' means (of weather) close and sultry, 'Taciturn' means (of a person) reserved or uncommunicative in speech; saying little.
129. Ans. D.

Parts A and C carry the error. The phrase "almost his tricks" in part A does not make sense at all. It can either be "almost all his tricks" or "all his tricks". In the third part of the sentence, "at the end of" will be followed by a noun. Thus, the verb "perform" should be replaced by the noun "performance". Thus. option D is the correct answer.
130. Ans. B.

Parts B and D are incorrect. In part B, "worn" is the past participle form of the verb and will require the auxiliary verb "had" before it to make the past perfect tense. But, since "had" is missing, the simple past tense "wore" should be used.
The sentence conveys the sense that the concerned person wore a smile like he would wear a cloth that can be removed easily. Thus, instead of "removed", the adjective "removable" should be used.
131. Ans. A.

Parts A and B are incorrect. In part A "expanse" means the wide range or the huge number of the young population. So, the preposition "of" should be used instead of "from" to convey the correct sense. In part B, the noun "importance" should be replaced by the adjective important" to make the sentence grammatically correct. Thus, option A is the correct answer.
132. Ans. E.

The sentence is structurally and grammatically correct. It states that the video game industry is similar to the film industry in the sense that in both of them an 'idea' plays a minor role.
133. Ans. B.

Parts A and D are grammatically incorrect. In the first part of the sentence, the subject and the verb do not agree with each other. The subject "agreements" is plural here, thus, the verb should be "reflect" (plural). In the fourth part of the sentence, only two entities have been mentioned, thus, the word "between" should be used instead of "among" (used to compare more than two entities). Thus, option B is the correct answer.
134. Ans. B.
$B$ is the correct answer. "Futuristic" is an adjective, but we do not have a noun which it can modify. The noun "future" can replace "futuristic". Thus, option $B$ is the answer as the word is incorrect.
135. Ans. A.

Option A is the correct answer as "improved" is incorrect with respect to the tense of the given sentence. "Approaches" is in the simple present tense, thus, "improves" should be written instead of "improved" to maintain parallelism.
136. Ans. E.

All the words in the third sentence are grammatically and contextually correct. Thus, option E is the correct answer.
137. Ans. B.

The plural verb "increase" is incorrect as the subject, "ability" is singular here. Since, "ability" cannot be made plural with respect to the direction of the question, the verb must be made singular to agree with the singular subject. Thus, "increases" must replace "increase", and option B is the correct answer.
138. Ans. D.

In the fifth sentence, "improve" is a verb and "significant" is an adjective. We require a word that would define the quality of the improvement. Hence, we need an adverb to modify the verb "improve". Thus, "significantly" should be used instead of "significant".
139. Ans. D.

This is a little tricky. We require a preposition which when combined with "chip" will make a phrasal verb, the meaning of which will fit in the context of the given passage. "Chip beyond" is not a phrasal verb and does not convey an appropriate meaning. "Chip away" means to gradually make something weaker, smaller, or less effective, which fits in the context of the passage as it says that with the increase of online shopping, offline shopping will gradually fade away. Thus, option D is the correct answer.
140. Ans. E.

All the highlighted words in the sentence 7 are grammatically and contextually correct, thus, option E is the correct answer.
141. Ans. A.

The tense of the verb "order" is incorrect as the sentence mentions the phrase "a few years ago", which shows the context of the past. Hence, "ordered" should be written instead of "order". 142. Ans. B.

Though there is no grammatical error in this sentence, the word "consumers" is incorrect contextually. The sentence states that delivery chains have been developed by someone. So, these people must be the sellers or the retailers and not
the consumers, as the sellers would deliver goods. Thus, option B is the correct answer. 143. Ans. A.

In the given sentence, Lin Grosman, a concerned person in the subject-matter, is being quoted. Also, since the preposition "to" is mentioned after "accordingly", the phrase should be "According to", which means "as stated by". Hence, option A is the correct answer.
"Accordingly" is an adverb which means therefore/ as a result of, and is inappropriate in the given sentence.
144. Ans. E.

The fourth paragraph of the passage states, 'Many in the motor and insurance industries expect safety benefits from autonomous cars since more than $90 \%$ of accidents involve human error.' With the coming in of autonomous cars, an era of safety can be ushered, given everything will be technologically driven. Although, this can lead to a profitable situation for the insurance sectors since there will not be any accidents (or low rates of accidents) and hence the liability on the insurance sector to pay their clients off is minimised. However, technology also has its bane. In this background, it can not be inferred if the given situation will be nothing but only beneficial for the insurance sector. Thus, option E is the correct answer.
145. Ans. C.

Blip refers to minor interruptions or minor shocks, hence option C is the correct answer. Contextually it means that new technology encounters some interruptions when it is in the developing phase. 146. Ans. E.

As per Christian Wolmar, the author of "Driverless Cars: A Road to Nowhere", such accidents reduce the probability of public using autonomous vehicles. He goes on to emphasise the impact of these accidents and that the public would not completely accept self-driven vehicles until they're perceived to be $100 \%$ safe. Therefore, E is the right answer. 147. Ans. C.

The companies claim that driverless cars will be much more safe and secure, as it will be void of any human errors. But technology has its shortcomings too.As humans take time to learn driving, so will these driverless cars. As per the passage, it's not the first time that a car has killed someone, hence they aren't as safe as one might think them to be. Therefore, option C is the correct answer.
148. Ans. C.

Vanguard means a position at the forefront of the development of new ideas or to be at the leading or cutting-edge position. Therefore, C is the correct answer.
149. Ans. A.

The Government had to back the trials which it was about to conduct to demonstrate the new features of self-driven cars, due to rising public concern over the road saftey and cybersecurity. Amid the accident in which a pedestrian died due to a
collision with the autonomous vehicle, people are concerned about their road safety. Therefore, A. is the correct option.
150. Ans. D.

As per the passage, when investigators looked up the footage of the accident, it seemed that women came out suddenly in front of the car, wheeling her bicycle. Due to less reaction time, the Uber car couldn't break its speed, resulting in the accident. Hence, option D is the correct option.

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