

# Puzzle test for SBI PO Mains, IBPS PO Mains and RBI Grade B Exams. 

PT Set No 163
Directions: Study the following information carefully and answer the questions given beside.
Eight boxes Red, Black, Orange, Yellow, White, Blue, Green and Purple are placed in a row. Each box contains different amounts which are multiple of 7. The amounts are in different denominations such as Rs. 2000 and Rs.500. The amount ranges from Rs. 5000 to 75000 . No two boxes have same number of denominations in either Rs. 2000 or Rs.500. No two boxes have same amount. All the above information is not necessarily in the same order. Consider all boxes are placed towards north direction.

Some of the additional information given below:
The amount in the box which is adjacent to Purple colored box does not exceed Rs. 50000 . Rs. 21000 is neither in Red or Black colored box and number of notes in denominations of Rs. 2000 and Rs. 500 is in the ratio of 3:2 respectively. Difference between number of Rs. 2000 denominations notes in Black and Red colored box is 5 . The maximum amount is in Yellow colored box and it is divisible by 9. There are three boxes between the box which has Rs. 17000 in Rs. 500 denominations and Orange colored box, which has Rs.28000. Number of Rs. 500 notes in Blue colored box, is 2 more than Red colored box. There are three boxes between Black colored box and Green colored box, which has Rs 35000 with 13 notes in Rs. 2000 denominations. Orange colored box is exactly between Yellow and Black colored box and also Yellow colored box, is not adjacent to Red colored box. The Red colored box is either fourth or fifth from the extreme end. The purple colored box contains half of the amount of Orange colored box with 8 notes in Rs. 500 denominations. The box which contains Rs. 42000 is not adjacent to Rs.21000. Total number of Rs. 500 denominations notes in Orange and the box at the extreme right end is 38 . The white colored box is on the immediate left of Red colored box and the total numbers of notes are 15 . The amount in any of the box is divided by 10 , if it is perfect a square then it is in the Blue colored box which is second to the left of Red colored box. Maximum numbers of notes are in Red colored box and Rs. 16000 is in Rs. 500 denominations. The sum of number of notes in Rs. 2000 denominations of both purple and Red colored box is equal to that of yellow colored box.

1. What is the total number of notes in Black and Orange colored box?
A. 69
B. 64
C. 62
D. 67
E. Can't be determined
2. Four of the following five are alike in a certain way and hence form a group. Which of the following does not belong to the group?
A. Green-13
B. White - 6
C. Yellow-26
D. Orange - 12
E. Purple - 7
3. How many boxes are there between the box which has Rs. 9000 in 500 notes denominations and Rs. $\mathbf{3 0 0 0 0}$ in 2000 notes denominations?
A. None
B. One
C. Two
D. Three
E. Can't be determined
4. Which among the following boxes has Rs. 7000 in total?
A. Purple
B. White
C. Black
D. Either Black or Purple
E. None of the above
5. Which among the following combinations representing Box color-Total amount-total number of notes is definitely true?
A. White-Rs.21000,16
B. Green-Rs.35000, 29
E. None is true
C. Black-Rs. 42000,39
D. Yellow-Rs.63000, 52

The Question E

## Correct Answers:

| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :--- | :--- | :--- | :--- | :--- |
| C | E | D | E | C |

## Common explanation :

## References

1. The Red colored box is either fourth or fifth from the extreme end.
2. The white colored box is on the immediate left of Red colored box and the total numbers of notes are 15.
3. Maximum numbers of notes are in Red colored box and Rs. 16000 is in Rs. 500 denominations.
4. The amount in any of the box is divided by 10 , if it is perfect a square then it is in the Blue colored box which is second to the left of Red colored box.
5. Number of Rs. 500 notes in Blue colored box is 2 more than Red colored box.

## Inferences

From above information, the possible amounts in the boxes are given below

- Note: Amounts in the boxes are Rs.7000, Rs.14000, Rs.21000, Rs.28000, Rs.35000, Rs.42000, Rs.49000, Rs. 56000, Rs. 63000 and Rs. 70000 [All amounts which is multiple of 7]
- Let us take the box as numbered from 1 to 8 from the extreme left end as shown in table.
- With reference to point-1, we get two possible cases as follows
- White colored box is either Box number 3 or 4 (Refer point 2) \& it has 15 notes in total.
- Red colored box has 32 Rs. 500 Notes [16000/500 $=32$, refer point 3) and it has maximum notes in total.
- Out of the given amounts, only $\mathbf{4 9 0 0 0} / \mathbf{1 0}=\mathbf{4 9 0 0}=7 \mathbf{0}^{2}$ is the perfect square \& it is in Blue colored box, which is $2^{\text {nd }}$ to the left of Red colored box (Refer point 4)
- Blue colored box has 34 Rs. 500 Notes ( 2 more than Red box). Then, Blue box has Rs. 17000 ( $34 \times 500$ ) in Rs. 500 denominations and Rs. 32000 ( $16 \times 2000$ ) in Rs. 2000 denominations. Total Rupees in Blue colored box is Rs. 17000 + Rs. $32000=$ Rs. 49000 and Total Notes are 34 + $16=50$.

From above information, we get the initial table as follows,

| Case:1 |  |  |  |  | Red |
| :---: | :---: | :---: | :---: | :--- | :--- |
| Color | Blue | White | Red |  |  |
| Amount | 49000 |  |  |  |  |
| No's: 2000 | 16 |  |  |  |  |
| No's :500 | 34 |  | 32 |  |  |
| Total no of Notes | 50 | 15 | Maximum |  |  |
|  | $16 \times 2000=$ |  |  |  |  |
| Calculation | 32000 |  | $32 \times 500=$ |  |  |
|  | $34 \times 500=$ |  | 16000 |  |  |
| Box | 17000 | 2 | 3 | 4 | 5 |


| Case:2 |  |  |  |  |
| :---: | :---: | :---: | :---: | :--- |
| Color | Blue | White | Red |  |
| Amount | 49000 |  |  |  |
| No's: 2000 | 16 |  |  |  |
| No's :500 | 34 |  | 32 |  |
| Total no of Notes | 50 | 15 | Maximum |  |
|  | $16 \times 2000=$ |  |  |  |
| Calculation |  | 32000 |  | $32 \times 500=$ |
|  | $34 \times 500=$ |  | 16000 |  |
| Box | 12 | 3 | 4 | 5 |

## References

1. No two boxes have same number of denominations in either Rs. 2000 or Rs. 500 . No two boxes have same amount.
2. There are three boxes between the box which has Rs. 17000 in Rs. 500 denominations and Orange colored box, which has Rs. 28000.
3. The maximum amount is in Yellow colored box and it is divisible by 9.
4. Orange colored box is exactly in between Yellow and Black colored box and also Yellow colored box, is not adjacent to Red colored box.

## Inferences

From above information
Blue colored box has Rs. 17000 (in Rs. 500 denominations, refer point 1 \& 2) and Orange colored box is 6 and 7 in case 1 \& case 2 respectively. Orange colored box has Rs. 28000 [Refer point 2]

- Yellow colored box is not adjacent to Red colored box [Refer point 4]
- In case 1 , Yellow colored box is $7 \&$ Black colored box is 5 [Refer point 4]
- In case 2, Yellow colored box is $8 \&$ Black colored box is 6 [Refer point 4]
- Out of given amounts the only amount Rs. $63000(63000 / 9=7000)$ is divisible by 9 and it is in Yellow colored box [Refer point 3]. From this statement, it is clearly known that, in any the 8 boxes there are no $\mathbf{7 0 0 0 0}$ Rupees. Yellow colored box has Maximum Rs. 63000.

From above information, we get the table as follows,

| Case:1 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Color | Blue | White | Red | Black | Orange | Yellow |  |  |
| Amount | 49000 |  |  |  | 28000 | 63000 |  |  |
| No's: 2000 | 16 |  |  |  |  |  |  |  |
| No's :500 | 34 |  | 32 |  |  |  |  |  |
| Total no of Notes | 50 | 15 | Maximum |  |  |  |  |  |
|  | $16 \times 2000=$ |  | $32 \times 500=$ |  |  |  |  |  |
| Calculation | 32000 |  |  |  |  |  |  |  |
|  | $34 \times 500=$ |  | 16000 |  |  |  |  |  |
| Box | 17000 | 2 | 3 | 4 | 5 | 6 |  |  |


| Case:2 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Color |  | Blue | White | Red | Black | Orange | Yellow |
| Amount |  | 49000 |  |  |  | 28000 | 63000 |
| No's: 2000 |  | 16 |  |  |  |  |  |
| No's : 500 |  | 34 |  | 32 |  |  |  |
| Total no of Notes |  | 50 | 15 | Maximum |  |  |  |
| Calculation |  | $\begin{gathered} 16 \times 2000= \\ 32000 \\ 34 \times 500= \\ 17000 \end{gathered}$ |  | $\begin{gathered} 32 \times 500= \\ 16000 \end{gathered}$ |  |  |  |
| Box 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

## References

1. There are three boxes between Black colored box and Green colored box, which has Rs. 35000 with 13 notes in Rs. 2000 denominations.
2. The purple box contains half of the amount of Orange colored box with 8 notes in Rs. 500 denominations.
3. The amount in the box which is adjacent to Purple colored box is not exceeds Rs. 50000 .

## Inferences

From above information,
In case 1 , Green colored box is $1 \&$ case 2 , Green colored box is 2 [Refer point, 1]

- Green colored box has Rs. 35000 [13 notes, Rs. 2000 Denominations i.e. $13 \times 2000=$ Rs 26000 \& then, 18 notes must be in Rs. 500 denominations i.e. $18 \times 500=$ Rs. 9000 . Total $=$ Rs. $26000+$ Rs. $9000=$ Rs. 35000 \& Total notes $13+18$ = 31].
- Purple box is 8 in case 1 \& Purple box is 1 in Case 2 ( Last box)
- With reference to point 2, Orange colored box = Rs. 28000 and its half is Rs. 14000 (Rs.28000/2 $=$ Rs.14000) and Purple colored box has Rs. 14000 [ 8 notes, Rs. 500 denominations i.e. $8 \times 500=$ Rs. 4000 \& then, 5 notes must be in Rs. 2000 denominations i.e. $5 \times 2000=$ Rs. 10000 . Total $=$ Rs. $4000+$ Rs. $10000=$ Rs. 14000 \& Total notes $8+5=13$ ].
- With reference to point 3, Case : 1 gets eliminated as shown in Table


## Case:1 [Eliminated]

The amount in the box which is adjacent to Purple colored box is not exceeds Rs.50000. Here it is Rs. 63000

| Color | Green | Blue | White | Red | Black | Orange | Yellow | Purple |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Amount | 35000 | 49000 |  |  |  | 28000 | 63000 | 14000 |
| No's: $\mathbf{2 0 0 0}$ | 13 | 16 |  |  |  |  |  | 5 |
| No's: 500 | 18 | 34 |  | 32 |  |  |  | 8 |
| Total no of Notes | 31 | 50 | 15 | Maximum |  |  |  | 13 |
|  | $13 \times 2000=$ | $16 \times 2000=$ |  |  |  |  |  | $5 \times 2000=$ |
| Calculation | 26000 | 32000 |  | $32 \times 500=$ |  |  |  | 10000 |
|  | $18 \times 500=$ | $34 \times 500=$ |  | 16000 |  |  |  | $8 \times 500=$ |
|  | 9000 | 17000 |  |  |  |  |  | 4000 |
| Box | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |


| Case:2 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Color | Purple | Green | Blue | White | Red | Black | Orange | Yellow |
| Amount | 14000 | 35000 | 49000 |  |  |  | 28000 | 63000 |
| No's: 2000 | 5 | 13 | 16 |  |  |  |  |  |
| No's : 500 | 8 | 18 | 34 |  | 32 |  |  |  |
| Total no of Notes | 13 | 31 | 50 | 15 | Maximum |  |  |  |
| Calculation | $\left\lvert\, \begin{gathered} 5 \times 2000= \\ 10000 \\ 8 \times 500= \\ 4000 \end{gathered}=\right.$ | $\begin{gathered} 13 \times 2000= \\ 26000 \\ 18 \times 500= \\ 9000 \end{gathered}$ | $=\begin{gathered} 16 \times 2000= \\ 32000 \\ 34 \times 500= \\ 17000 \end{gathered}$ |  | $\begin{gathered} 32 \times 500= \\ 16000 \end{gathered}$ |  |  |  |
| Box | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

## References

1. Rs. 21000 is neither in Red or Black colored box and number of notes in denominations of Rs. 2000 and Rs. 500 is in the ratio of $3: 2$ respectively.
2. The box which contains Rs. 42000 is not adjacent to Rs. 21000 .
3. The sum of number of notes in Rs. 2000 denominations of both purple and Red colored box is equal to yellow colored box.

## Inferences

From above information,

- White colored box has Rs. 21000 (only possibility, refer point 1) and White box has 15 notes in total \& given, number of notes in denominations of Rs. 2000 and Rs. 500 is in the ratio of 3:2 respectively. [Ratio Calculation],

Rs. $2000 \times 15$ (notes) $\times \frac{3}{5}=$ Rs. $2000 \times 3 \times 3=$ Rs. 18000

Rs. $500 \times 15$ (notes) $\times \frac{2}{5}=$ Rs. $500 \times 3 \times 2=$ Rs. 3000
Total, White Box $=$ Rs. $18000+$ Rs. $3000=$ Rs. 21000

- Remaining amounts left are Rs. 7000 , Rs. 42000 \& Rs. 56000 (two boxes left). Given, Rs. 42000 box is not adjacent to white box, Refer point 2. So Rs. 42000 may be in Black box or not in any of the boxes. Red box must have Rs. 56000 , because already it has Rs. 16000 in Rs. 500 denominations. So Rs. 7000 is not possible in Red colored box. So finally Rs. 7000 or Rs. 42000 is in Black box.
- Red colored box has Rs. 56000 [Given, 32 notes, Rs. 500 denominations i.e. $32 \times 500=$ Rs. 16000 \& then, 20 notes must be in Rs. 2000 denominations i.e. $20 \times 2000=$ Rs. 40000 . Total $=$ Rs. $16000+$ Rs. $40000=$ Rs. 56000 \& Total notes $32+20=52$, maximum among 8 boxes].
- With reference to point 3, Purple box has 5 notes (Rs. 2000 denominations) \& Red colored box has 20 notes (Rs. 2000 denominations). Sum $=5+20=25$. Then Yellow colored box has 25 notes in Rs. 2000 denominations.
- Yellow colored box has Rs. 63000 [25 notes, Rs. 2000 Denominations i.e. $25 \times 2000=$ Rs 50000 \& then, 26 notes must be in Rs. 500 denominations i.e. $26 \times 500=$ Rs. 13000 . Total $=$ Rs. $50000+$ Rs. $13000=$ Rs. 63000 \& Total notes $25+26=51]$.

From above information, we get the table as follows,

| Case:2 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Color | Purple | Green | Blue | White | Red | Black | Orange | Yellow |
| Amount | 14000 | 35000 | 49000 | 21000 | 56000 | $7000 / 42000$ | 28000 | 63000 |
| No's: $\mathbf{2 0 0 0}$ | 5 | 13 | 16 | 9 | 20 |  |  | 25 |
| No's : 500 | 8 | 18 | 34 | 6 | 32 |  |  | 26 |
| Total no of Notes | 13 | 31 | 50 | 15 | 52 |  |  | 51 |
|  | $5 \times 2000=$ | $13 \times 2000=16 \times 2000=9 \times 2000=$ | $20 \times 2000=$ |  |  | $25 \times 2000=$ |  |  |
| Calculation | 10000 | 26000 | 32000 | 18000 | 40000 |  |  | 50000 |
|  | $8 \times 500=$ | $18 \times 500=$ | $34 \times 500=$ | $6 \times 500=$ | $32 \times 500=$ |  |  | $26 \times 500=$ |
|  | 4000 | 9000 | 17000 | 3000 | 16000 |  | 13000 |  |
| Box | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

## References

1. Total number of Rs. 500 denominations notes in Orange and extreme right end box is 38 .
2. Difference between number of Rs. 2000 denominations notes in Black and Red colored box is 5 .

## Inferences

From above information,

- Yellow box-extreme right end box and it has 26 notes in Rs. 500 denominations.
- Then, Orange colored box has 12 notes in Rs. 500 denominations [Total $=38$, Then $38-26=12$, as per the reference point-1]
- Orange colored box has Rs. 28000 [Given, 12 notes, Rs 500 denominations i.e. $12 \times 500=$ Rs. 6000 \& then, 11 notes must be in Rs. 2000 denominations i.e. $11 \times 2000=$ Rs. 22000.

Total $=$ Rs. 6000 + Rs. $22000=$ Rs. 28000 \& Total notes 12 + 11 = 23].

- Red colored box has 20 notes in Rs. 2000 denominations. Given, Difference between Red \& Black box is 5. Then Black box should have either 15 notes or 25 notes in Rs. 2000 denominations.
- If Black box has 25 notes in Rs. 2000 denominations, it amounts $25 \times 2000=$ Rs. 50000 which is not possible as it has either Rs.7000/Rs. 42000.
- If Black has 15 notes in Rs. 2000 denominations, it amounts $15 \times 2000=$ Rs. 30000 which is possible. Then clearly indicates that, any of the boxes doesn't have Rs. 7000 .
- Finally, Black colored box has Rs. 42000 [15 notes, Rs. 2000 Denominations i.e. $15 \times 2000=$ Rs $\mathbf{3 0 0 0 0}$ \& then, 24 notes must be in Rs. 500 denominations i.e. $24 \times 500=$ Rs. 12000 . Total $=$ Rs. $30000+$ Rs. $12000=$ Rs. 42000 \& Total notes 15 + 24 = 39].

Thus we get the final table as shown below,

| Case:2 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Color | Purple | Green | Blue | White | Red | Black | Orange | Yellow |
| Amount | 14000 | 35000 | 49000 | 21000 | 56000 | 42000 | 28000 | 63000 |
| No's: 2000 | 5 | 13 | 16 | 9 | 20 | 15 | 11 | 25 |
| No's : 500 | 8 | 18 | 34 | 6 | 32 | 24 | 12 | 26 |
| Total no of Notes | 13 | 31 | 50 | 15 | 52 | 39 | 23 | 51 |
|  | $5 \times 2000=13 \times 2000=$ | $16 \times 2000=$ | $9 \times 2000=$ | $20 \times 2000=15 \times 2000=$ | $11 \times 2000=25 \times 2000=$ |  |  |  |
| Calculation | 10000 | 26000 | 32000 | 18000 | 40000 | 30000 | 22000 | 50000 |
|  | $8 \times 500=$ | $18 \times 500=$ | $34 \times 500=$ | $6 \times 500=$ | $32 \times 500=$ | $24 \times 500=$ | $12 \times 500=$ | $26 \times 500=$ |
|  | 4000 | 9000 | 1700 | 3000 | 16000 | 12000 | 6000 | 13000 |
| Box | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

## Explanations:

1. The following common explanation, we get "62".

Black box $=39$ \& Orange Box $=23$ Then Sum $=39+23=62$

Hence, option C is correct.
2. The following common explanation, we get "Purple-7, 7 does not belong to any of the denominations".

Remaining 4 options are paired with, either number of Rs 500 notes or number of Rs. 2000 notes.
Hence, option E is correct.
3. The following common explanation, we get "Three Boxes".

Green Box has Rs. 9000 (500 denominations) \& Black box has Rs. 3000 (2000 denominations).

In between, 3 boxes are there.

Hence, option D is correct.
4. The following common explanation, we get "None of the above".

No box contains Rs. 7000.

Hence, option E is correct.
5. The following common explanation, we get "Black-Rs. 42000 \& Total notes 39".

Hence, option C is correct.

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