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# Seating Arrangement for SBI PO Mains, IBPS PO Mains and RBI Grade B Exams.

## SA Set No 138

**Directions: Study the following information carefully and answer the questions given beside.**

There are 16 persons A to H and P to W are sitting around two circular tables but not necessarily in the same order. The circular tables are such that one is small and second is large with small inside the larger one. The persons sitting around the outer circular table are facing the center and the persons sitting around the inner circular table are facing outside the centre. So in this way, the persons are facing each other when they are sitting on the same sides of the table. Each of them is born in different years such as 1934, 1969, 1962, 1983, 1990, 1997, 1976, 1941, 1991, 1982, 2003, 2000, 1955, 1958, 1949 and 1970 but not necessarily in the same order. The present age of the person is calculated based on the year 2018. Age of the persons who sit in the inner circle is multiple of three and age of the persons who sit in the outer circle is multiple of seven. The persons with odd numbered ages are neither immediate neighbors of each other nor facing each other.

Number of persons sitting between D and B in the outer circle is same as the number of persons sitting between R and P in the inner circle and none of them is facing each other. The oldest persons of the group are immediate neighbors. G sits immediate left of D and G's age is divisible by 11. No one sits between U and Q. E's age is divisible by five and faces T, who faces outside the circle. Three persons sit between U and W, who faces the person, whose age is a perfect square. If the difference between the age of the person who was born in 1970 and H is one, then they are facing each other. R sits third to the left of T. B sits immediate left of F. G is an immediate neighbor of the person who was born in 1976. The person who was born in 1983 sits third to the right of D. Number of persons sitting between the one who was born in the year 1982 and 1955 is same as the number of persons sitting between T and S, who was born in 1949. The sum of age of T and V is twice the age of W. Only one person sits between W and V. R's age is divisible by both three and seven. The person who was born in 2000 sits opposite to F. The person who was born in 1962 sits opposite to P, who was born in 1991. The one person who sits opposite to E was born in the year 1982. The person who was born in 1997 is not facing outside the circle. The age of the person who sits at the immediate right of R, is half the age of T. F is younger than B and both are younger than E. C is not born in the years 1962 and 1934. A is older than C.

**1. Who among the following are the eldest and the youngest person of the group respectively?**

- A. Only C and W      B. Only A and V      C. Only D and Q      D. Only H and F      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. H – 1970      B. S – 1934      C. G – 1958      D. C – 1955      E. B – 1997

**3. What is sum of the ages of C, Q and F?**

- A. 105      B. 120      C. 85      D. 78      E. Can't be determined

**4. Which of the following combinations is true?**

- A. D who was born in 1934 faces V  
B. W who was born in 1970 faces A  
C. U who was born in 2000 faces the person whose age is 28  
D. V who was born in 1958 faces C  
E. None of these

**5. If the persons sitting in the inner circle are arranged in alphabetical order starting from the one who was born in 1991 in anti-clock wise direction, then who among the following persons faces C?**

- A. R      B. T      C. V      D. U      E. None of these

**Correct Answers:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
C	E	D	E	B

## Common explanation :

### References

Each of them is born in different years such as 1934, 1969, 1962, 1983, 1990, 1997, 1976, 1941, 1991, 1982, 2003, 2000, 1955, 1958, 1949 and 1970 but not necessarily in the same order.

The present age of the person is calculated based on the year 2018.

Age of the persons who sit in the inner circle is multiple of three and age of the persons who sit in the outer circle is multiple of seven.

The persons with odd numbered ages are neither immediate neighbours of each other nor facing each other.

### Inferences

From the above statements,

- Given, all people's birth year and age is calculated based on the year 2018. Let the possible ages of all persons be calculated initially.
- The person who sits in the inner circle have their age in multiple of 3 and the person who sits in the outer circle have their age in multiple of 7.
- The persons with odd numbered ages are neither immediate neighbours of each other nor facing each other.  
[Here, we simply conclude that, odd number aged person faces even number aged person or vice versa]

Following table shows the possible ages of all 16 people,

Age calculation Table			
Year	Age	Year	Age
1934	84	1991	27
1969	49	1982	36
1962	56	2003	15
1983	35	2000	18
1990	28	1955	63
1997	21	1958	60
1976	42	1949	69
1941	77	1970	48
Multiple of 7 values		84, 49, 56, 35, 28, 21, 42, 77, 63	
Multiple of 3 values		27, 36, 15, 18, 63, 60, 69, 48, 84, 21, 42	
Multiple of both 7 & 3		84, 63, 21, 42	

### References

Number of persons sitting between D and B in the outer circle is same as the number of persons sitting between R and P in the inner circle and none of them is facing each other.

G sits immediate left of D and G's age is divisible by 11.



G is an immediate neighbor of the person who was born in 1976.

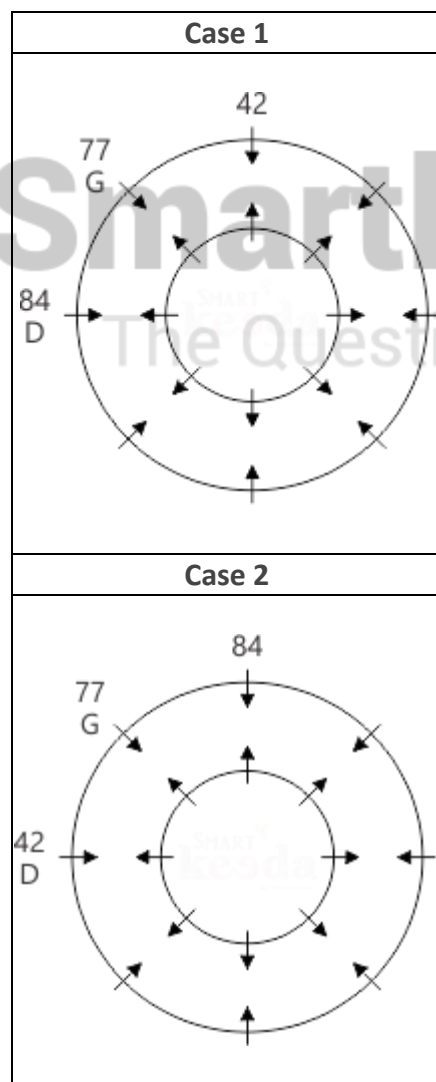
The oldest persons of the group are immediate neighbors.

### Inferences

From above statements,

- From above conditions, clearly we get a clue that, G and D are sits in the outer circle.
- G's age is divisible by 11. [G sits in the outer circle and age should be multiple of 7. Here, only number is 77 which is divisible by 11 and multiple of 7. Therefore, G was born in 1941.
- The person who was born in 1976 (age = 42) is an immediate neighbor of G.
- The oldest persons of the group are immediate neighbors. [Here, the oldest people among the group ages are 77 (born in 1941) and 84 (born in 1934). Therefore they are immediate neighbors. **Note: D's age may be either 84 or 42.**

Thus we get the initial seating arrangement (two possibilities) is shown in fig.



### References

E's age is divisible by five and faces T, who faces outside the circle.

The person who was born in 1983 sits third to the right of D.

R sits third to the left of T.

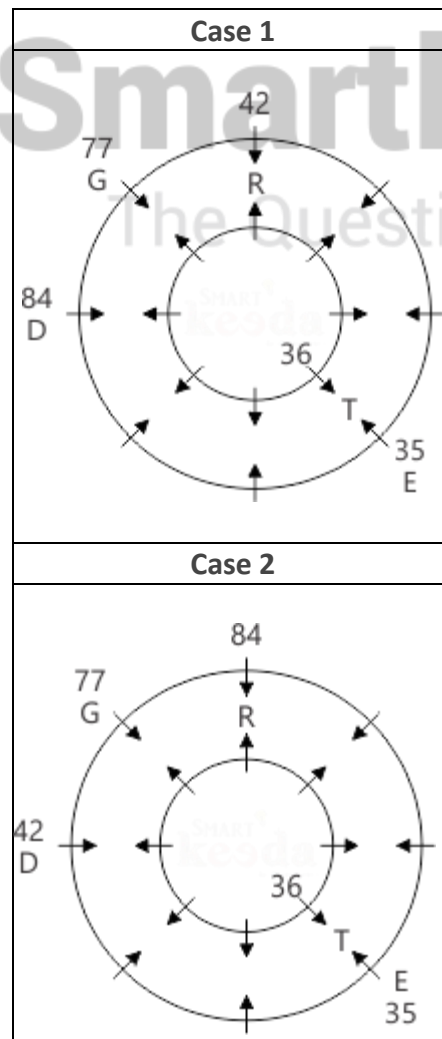
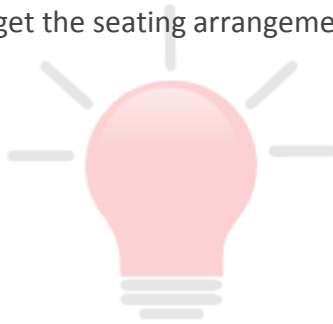
The one person who sits opposite to E was born in the year 1982.

### Inferences

From above statements,

- T faces outside the circle, then E faces inside the circle [E faces T]. Therefore, E's age should be multiple of 7. But given it also divisible by 5. Then only age 35 satisfies both condition among given years. Therefore, E was born in 1983 (age = 35) as 35 is the multiple of 7.
- The person who was born in 1983 [E and age is 35] sits third to the right of D.
- The person who was born in 1982 [T and age is 36] sits opposite to E. Then R sits third to the left of T.

Thus we get the seating arrangement (two possibilities) is shown in fig.



## References

The age of the person who sits at the immediate right of R, is half the age of T.

The person who was born in 2000 sits opposite to F.

B sits immediate left of F.

Number of persons sitting between D and B in the outer circle is same as the number of persons sitting between R and P in the inner circle and none of them is facing each other.

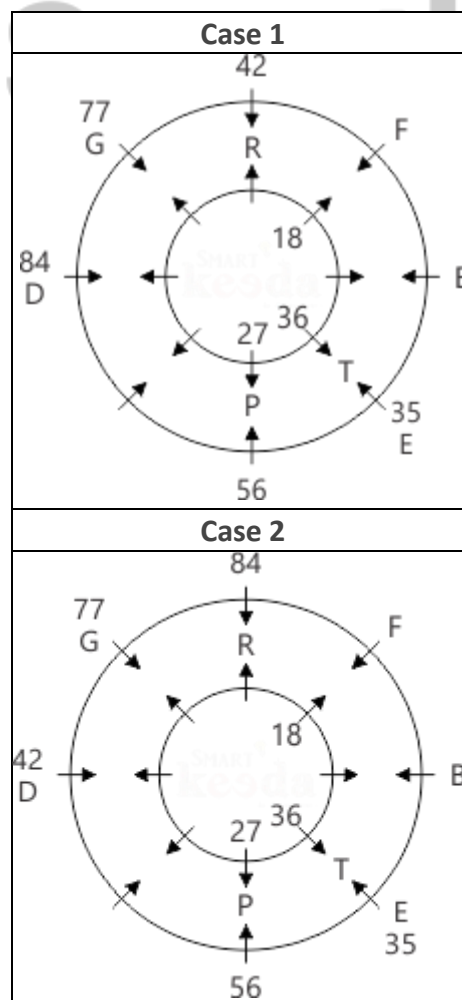
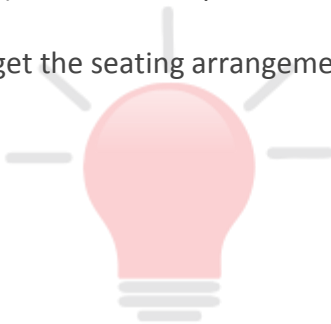
The person who was born in 1962 sits opposite to P, who was born in 1991.

## Inferences

From above statements,

- T's age is 36. Half the age of T is 18. Therefore the person who sits at the immediate right of R, age is 18 (born in 2000) faces F. B sits immediate left of F. Therefore, the number of persons sits between D and B is 3. Then the number of persons sits between R and P is also 3. Here, P was born in 1991 (age = 27) and faces the person who was born on 1962 (age = 56).

Thus we get the seating arrangement (two possibilities) is shown in fig.



## References

R's age is divisible by both three and seven.

The person who was born in 1997 is not facing outside the circle.

Number of persons sitting between the one who was born in the year 1982 and 1955 is same as number of persons sitting between T and S, who was born in 1949.

No one sits between U and Q.

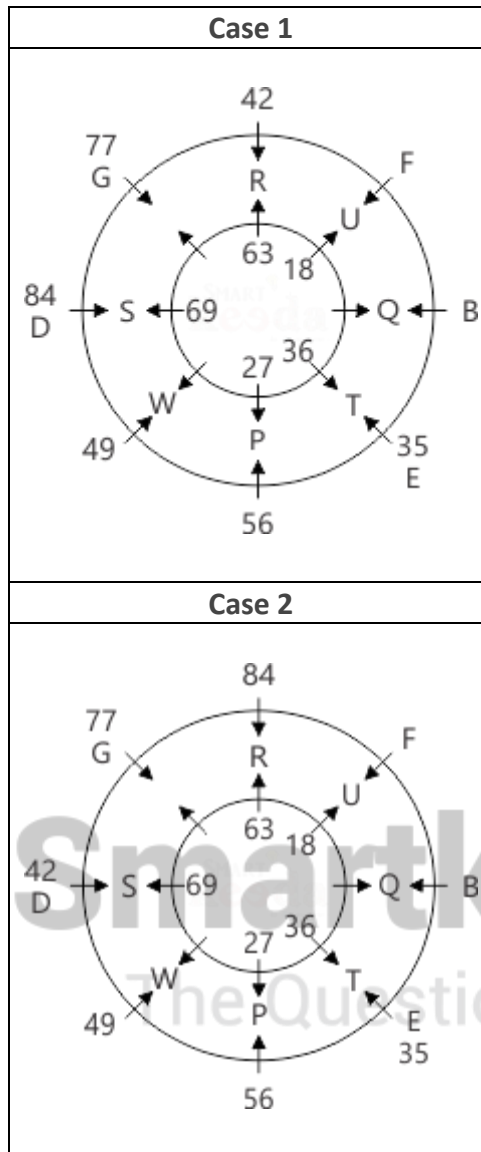
Three persons sit between U and W, who faces the person, whose age is perfect square.

## Inferences

From above statements,

- The number which is divisible by both 3 and 7 are 84, 63, 21 and 42 among given years (Refer age calculation table)
- The person who was born in 1997 (age = 21) not facing outside the circle. Then he/she faces inside the circle.
- The person whose ages of 84 and 42 are already sitting in the outer table and faces inside.
- **R's age is divisible by both 3 and 7 [Then only possible number is 63]. Therefore R, who was born in 1955 and his/her age is 63.**
- Number of person sits between the one who was born in the year **1982 [T and age is 36]** and **1955 [R and age is 63]** is 2. Then the number of person sits between T and S, who was born in 1949, is also 2. **The person S age is 69 and faces D in both cases.**
- **No one sits between U and Q. Three persons sit between U and W. W faces the person, whose age is perfect square.**
- The number which is perfect square among given years are 36 ( $6^2$ ) and 49 ( $7^2$ ). We know, T's age is 36 (multiple of 3) and faces outside the circle [T faces E]. Then the person whose age is 49 (multiple of 7) is faces inside the circle. From this statement, we get a clue that, **W sits in the inner circle and faces the person whose age is 49.**
- **From all above information, we get only one possibility in both cases as, U sits at immediate right of R. Q sits immediate right of U (no person sits between U and Q) and W sits immediate right of P and W faces the person whose age is 49. Note: U faces F and Q faces B.**

Thus we get the seating arrangement (two possibilities) is shown in fig.



### References

Only one person sits between W and V.

If the difference between the age of the person who was born in 1970 and H is one, then they are facing each other.

The sum of age of T and V is twice the age of W.

The person who was born in 1997 is not facing outside the circle.

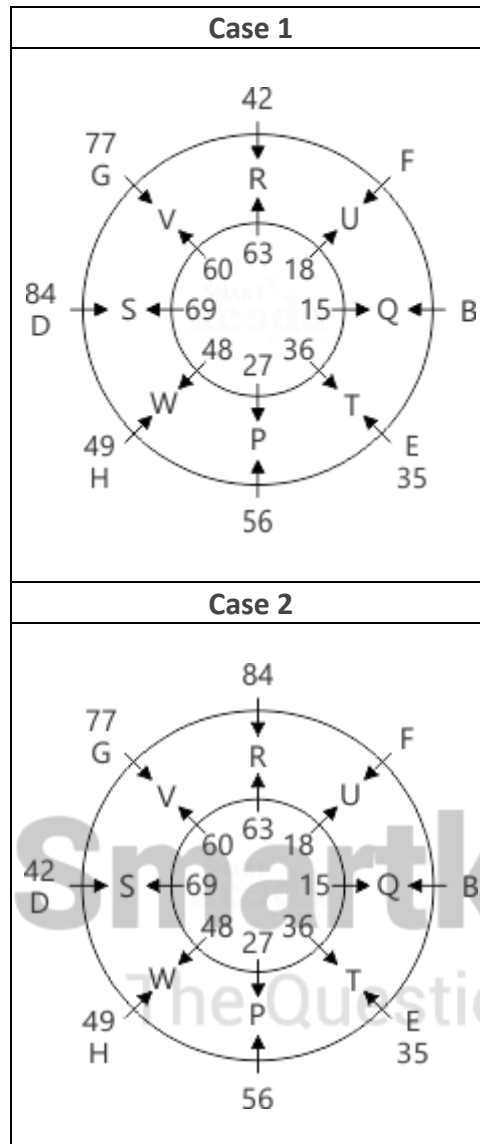
### Inferences

From above statements,

- Only one person sits between W and V. Therefore, V sits in between S and R.
- Given Condition: **The age of the person who was born in 1970 is 48 (multiple of 3).** Then he/she must sit in the inner circle. H's age (doesn't know) and the person whose age is 48 makes the difference 1 then they are facing each other. [Note: If this condition satisfied, then H must be in the outer circle]. **Either V or W or Q's age is 48 as per the arrangement. Let us check the possibility.**



<p>If <math>V = 48</math>,  <math>V</math> faces <math>G</math> and <math>G = 77</math></p>	<p>Difference = <math>77 - 48 = 29</math>  (not possible)</p>
<p>If <math>Q = 48</math>,  <math>Q</math> faces <math>B</math> and <math>B =</math> either 21  or 28 (only two values are  remaining in multiple of 7)</p>	<p>Difference 1 = <math>48 - 21 = 27</math>  (not possible)    Difference 2 = <math>48 - 28 = 20</math>  (not possible)</p>
<p>If <math>W = 48</math>, <math>W</math> faces 49  (either <math>A</math> or <math>H</math> or <math>C</math>) only 3  persons are left in the  outer circle.</p> <p><b><u>Remember, <math>W</math> faces the  person whose age is  perfect square.</u></b></p>	<p><b>Difference = <math>49 - 48 = 1</math>  (possible)</b></p> <p>Then, <b><u><math>W</math> born in 1970 and  age is 48.</u></b></p> <p>As per the condition it  must be <math>H</math>.</p> <p>Then, <b><u><math>H</math> was born in 1969  and age is 49.</u></b></p>
<p>We know,  <math>W = 48</math> (born in 1970)</p> <p><b>Given, <math>T + V = 2W</math></b>  We know <math>T = 36</math></p>	<p>Then,</p> <p><math>36 + V = 2 \times 48 \rightarrow 36 + V = 96</math></p> <p><math>V = 96 - 36 = 60</math> Therefore,</p> <p><b><math>V</math> was born in 1958  and age is 60</b></p>
<p><b>Given,</b>  The person who was born  in 1997 (age = 21) not  facing outside the circle.  Then he/she <b>faces inside  the circle.</b></p>	<p><b>Therefore, <math>Q</math>'s age must  be 15.</b></p> <p>Reason: Only number 21  and 15 are left which is  multiple of 3. But, <b><math>Q</math> faces  outside the circle.</b> Thus the  age 21 is not possible.</p> <p><b>Therefore, <math>Q</math> was born in  2003 and age is 15</b></p>



### References

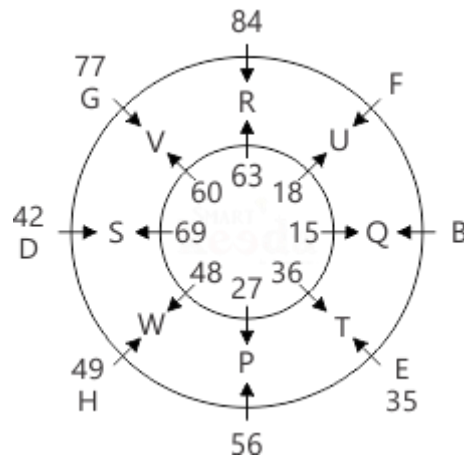
C was not born in the year 1962 and 1934. F is younger than B and both are younger than E. A is older than C.

### Inferences

From above statements,

- C is not born in the year 1962 (age = 56) and 1934 (age = 84). Therefore no place for C in case 2. **Then case: 2 can be eliminated.**

**Case 2 [Eliminated]**  
**No place for C**



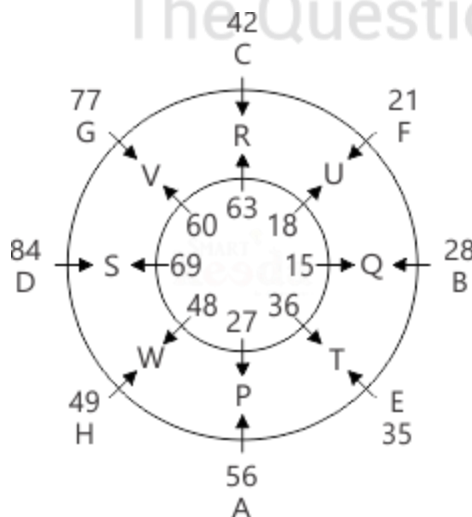
- In Case (1), C is not born in the year 1962 (age = 56) then **C was born in 1976 and age is 42.**
- **Now, the numbers 21 and 28 (multiple of 7) are left.**
- **E was born in 1983 (age = 35) and F & B are younger than E.**
- **Also, given F is younger than B. Then, we conclude that, F was born in 1997 (age = 21) and B was born in 1990 (age = 28) i.e.**

**Condition Satisfied: (F = 21) < (B = 28) < (E = 35)**

A is older than C. Therefore A was born in 1962 (age = 56) and C **was born in 1976 and age is 42**

**Condition Satisfied: (A = 56) > (C = 42).** Thus we get the final seating arrangement of all persons with their ages.

Case 1



## Answers:

1. The following common explanation, we get **“Only D and Q”**.

D's age = 84 (Eldest person) and Q's age = 15 (Youngest person)

Hence, option C is correct.

2. The following common explanation, we get **“B – 1997, wrongly paired”**.

Remaining 4 options are paired with the birth year of the persons sitting in front of the other. Example, H faces W, who was born in 1970.

Hence, option E is correct.

3. The following common explanation, we get **“78”**.

C = 42, Q = 15 & F = 21, then Sum =  $42 + 15 + 21 = 78$

Hence, option D is correct.

4. The following common explanation, we get **“None of these”**.

All the options are false.

Hence, option E is correct.

5. The following common explanation, we get **“T”**.

While arranging in alphabetical order from P (born in 1991) in anti-clock direction, R was replaced by T. T faces C in the outer circle.

Hence, option B is correct.



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