

# Seating Arrangement Questions for SBI PO Pre, SBI PO Pre, SBI Clerk Mains, IBPS Clerk Mains and LIC AAO Exams. 

## Set No 132

Directions: Study the following information carefully and answer the questions given beside:
Seven bikes namely P to V were parked in a straight line and facing north direction. Distance between two adjacent bikes increases from left to right in consecutive multiples of 7 m . The total length of straight line is 189m.

Distance between Bike $R$ and Bike $V$ is 35 m .Bike V is parked to the right of Bike R . Distance between Bike P and Bike $U$ is same as the distance between Bike $T$ and Bike $Q$. Maximum number of bikes are parked between Bike $U$ and Bike R. Bike $S$ is parked to the immediate left of Bike P. At least two bikes are parked to the left of Bike Q.

After the final arrangement, Bikes move as per the following directions:
Bike $T$ turned towards Bike $V$ and moved 11 m then took a left turn moved 16 m .

Bike U turned towards Bike $Q$ and moved 24 m then took a right turn moved 21 m .

Bike R turned towards south and moved 18 m and then took left turn and moved 25 m .


From there Bike R took left turn and moved 10 m .
Bike $Q$ turned towards Bike $V$ and moved 26 m .

Note- New positions of all the bikes are to be denoted by adding ` to their respective names. For example New position of Bike T will become T`.

## 1. What is the position of Bike $R^{`}$ with respect to the Bike $T^{\prime}$ ?

A. South
B. North
C. South-East
D. North-West
E. Can't be determined
2. What is the distance between Bike V and Bike S in a straight line?
A. 49 m
B. 63 m
C. 28 m
D. 84 m
E. None of these

## 3. Which of the following statements is true?

A. Number of bikes parked between $T$ and $Q$ is same as $Q$ and $R$ is a straight line before movement.
$B$. Distance between bike $S$ and bike $P$ is same as distance between bike $T$ and bike $V$.
C. Bike $T$ is in North-west and Bike $Q$ is in south direction of Bike $U$ after movement.
D. Distance between bike $R$ and bike $T$ is twice as the distance between bike $V$ and bike $Q$.
E. None is true
4. What is the position of Bike $T$ with respect to Bike $P$ in a straight line?
A. Bike $T$ is parked to the left of bike $P$ at a distance of $84 m$.
B. Bike $P$ is parked to the right of bike $T$ at a distance of 91 m .
C. Bike $T$ is parked to the left of bike $P$ at a distance of 126 m .
D. Bike $P$ is parked to the right of bike $T$ at a distance of 63 m .
E. None of these
5. What is the shortest distance between Bike T` and Bike Q`?
A. 16 m
B. 30 m
C. 25 m
D. 20 m
$E$. None of these

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## Correct Answers:

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

## COMMON EXPLANATION:

## References:

Seven bikes namely P to V were parked in a straight line and facing north direction.

Distance between two adjacent bikes increases from left to right in consecutive multiples of 7 m .

The total length of straight line is 189 m .

## Inferences:

From above statements,

Let us calculate the distance between the bikes from the above hints.

If the distance increased from 7 m from left to right, then we get following figure i.e. total length of the straight line is $147 m[7 m+14 m+21 m+28 m+35 m+42 m=147 m]$ which is not possible.

## Case: 1 (Not possible)



If the distance increased from 14 m from left to right, then we get following figure i.e. total length of the straight line is $189 m[14 m+21 m+28 m+35 m+42 m+49 m=189 m]$ which is given in the condition. Hence it is possible.

Case: 2 (Possible)


## References:

Maximum number of bikes are parked between Bike $U$ and Bike $R$.

Bike V is parked to the right of Bike R .

Distance between Bike R and Bike V is 35 m .

## Inferences:

From above statements,

Given, maximum number of bikes is parked between Bike $U$ and Bike $R$ i.e. Bike $R$ and Bike $U$ are parked at extreme ends (reference point-1)

Given, Bike $V$ is parked to the right of Bike $R$. Therefore it is clearly understood that Bike $R$ is parked at extreme left end and Bike $U$ is parked at extreme right end (reference point-2)

As per $3^{\text {rd }}$ reference point-3, Bike $V$ is parked second to the right of Bike $R$.

By using above information we get the following figure,
Case: 2


## References:

Bike $S$ is parked to the immediate left of Bike $P$.
At least two bikes are parked to the left of Bike Q .
Distance between Bike P and Bike U is same as the distance between Bike T and Bike Q .

## Inferences:

From above statements,
As per $1^{\text {st }}$ reference point, we get two possibilities as shown:
Case-2: Bike $S$ and Bike $P$ is to the immediate right and $2^{\text {nd }}$ to the right of Bike $V$ respectively (reference point1). As per $2^{\text {nd }}$ reference point, Bike $Q$ is parked to the immediate right of Bike $P$ i.e. 5 bikes are parked to the left of Bike $Q$. Finally Bike $T$ is parked to the immediate right of Bike R.

Now from diagram we get, distance between Bike $P$ and Bike $U$ is $91 m[42 m+49 m=91 m$ ]. Therefore distance between Bike $T$ and Bike Q must be 91 m . But from diagram we get the distance between Bike $T$ and Bike $Q$ is $126 \mathrm{~m}[21 \mathrm{~m}+28 \mathrm{~m}+35 \mathrm{~m}+42 \mathrm{~m}=126 \mathrm{~m}$ ] which is not possible (reference point-3 not satisfied). Hence this case can be eliminated.

Case: 2 [Eliminated]


Case-2-A: Bike $S$ and Bike $P$ is to the $2^{\text {nd }}$ right and $3^{\text {rd }}$ to the right of Bike $V$ respectively (reference point- 1 ). As per $2^{\text {nd }}$ reference point, Bike $Q$ is parked to the immediate right of Bike $V$ i.e. 3 bikes are parked to the left of Bike $Q$. Finally Bike $T$ is parked to the immediate right of Bike R.

Now from diagram we get, distance between Bike $P$ and Bike $U$ is 49 m . Therefore distance between Bike $T$ and Bike $Q$ must be 49 m . From diagram we get the distance between Bike $T$ and Bike $Q$ is $49 \mathrm{~m}[21 \mathrm{~m}+28 \mathrm{~m}=$ 49 m , reference point-4]. All conditions get satisfied and we get the final arrangement.

Case: 2-A


## References:

Bike T turned towards Bike V and moved 11m then took a left turn moved 16m.

Bike U turned towards Bike Q and moved 24 m then took a right turn moved 21 m .
Bike R turned towards south and moved 18 m and then took left turn and moved 25 m .

From there Bike R took left turn and moved 10 m .

Bike Q turned towards Bike V and moved 26 m .

## Inferences:

All statements are given directly; by using we get the following figure.
Note: New position of Bike T, Bike U, Bike R and Bike Q are denoted as Bike $T^{\prime}$, Bike $U^{\prime}$, Bike $R^{\prime}$ and Bike $Q^{\prime}$.

## Case: 2-A



## Answers :

1. Following the common explanation, we get "South".

From figure, Bike $\mathrm{R}^{\prime}$ is exactly South of Bike $\mathrm{T}^{\prime}$

Hence, option A is correct
2. Following the common explanation, we get " 63 m ".

The distance between Bike $V$ and Bike $S$ in a straight line is $63 m[28 m+35 m=63 m]$.
Hence, option B is correct.
3. Following the common explanation, we get "None is true".

Hence, option E is correct.
4. Following the common explanation, we get "Bike $T$ is parked to the left of bike $P$ at a distance of 126m".

From figure, we get the distance between Bike T and Bike $P$ is $126 m[21 m+28 m+35 m+49 m=126 m$ Hence, option C is correct.
5. Following the common explanation, we get " 20 m ".

From below figure, we get

Shortest distance between Bike T` and Bike Q`
$\sqrt{12^{2}+16^{2}}=\sqrt{144+256}=\sqrt{400} \mathrm{~m}=20 \mathrm{~m}$

Hence option A is correct.

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