RBI PHASE 1 RECAP

13th JULY ‘18

REASONING-DIRECTIONS
The question on direction sense typically involve a person moving certain distances in specified directions. Then, the student is asked to find out the distance between the initial and the final points.

TIPS FOR SOLVING THE DIRECTION QUESTIONS
1) Always try to use direction planes as the reference for all the questions.
2)) Now, as the statement of the question progresses, you should also proceed over thus reference plane only.

3)) Always mark the starting point and end-point different from the other points.

4)) Always be attentive while taking right and / or left turns.

5)) To solve thus type of questions you should remember the following diagram:

![Diagram showing cardinal and intercardinal directions.

The figure above shows the standard way of depicting the four main directions and the four cardinal directions. North (N), South (S), East (E), West (W) and North East (NE), North West (NW), South West (SW), South East (SE).

6)) one should aware of basic geometric rule, such as Pythagoras Theorem.

Pythagoras Theorem = \( AC^2 = AB^2 + BC^2 \)

So, \( AC = \sqrt{AB^2 + BC^2} \)

Where ABC is a right-angled triangle.
7) If in the question the degree of turning on right or left-hand side is not given, we assume it as 90° degree turn.
8) In these questions, North South direction is referred to as “vertical direction” and East-West direction is referred to as the horizontal direction”.
9) We should know that clockwise means “the right side turn” and anti-clockwise means “the left-hand side turn”.

DIRECTIONS
Q.1) Manoj travelled 10 km North, then travelled 15 km towards South, then moved a further 5 km towards his right. Find the shortest distance from the starting point to the final point?

[a] 2 $\sqrt{5}$ km
[b] 5$\sqrt{2}$ km
[c] 5 km
[d] none of these

O= starting point
F= final point
Shortest distance = $\sqrt{5^2 + 5^2} = 5\sqrt{2}$ km
1.2) In a country XYZ, west means North, North means South, South means East and East means west. In this country XYZ, Mrs. A start walking towards South for 12 km and then 10 km further towards West. Mrs. A then travels a distance of 15 km towards her right and again travels 20 km towards her right. Finally, Mrs. A travels 18 km towards East. The directions given for Mrs. A’s movements are according to the words used in XYZ country.

Q.2) Find the horizontal distance travelled by Mrs. A in the journey.
[a] 10 km
[b] 20 km
[c] 18 km
[d] none of these

Solution 2. (d)
West = North
North = South
South = East
East = West

Horizontal distance travelled = 12 + 15 + 18 = 45 km
I.3) In a country XYZ, west means North, North means South, South means East and East means west. In this country XYZ, Mrs. A start walking towards South for 12 km and then 10 km further towards West. Mrs. A then travels a distance of 15 km towards her right and again travels 20 km towards her right. Finally, Mrs. A travels 18 km towards East. The directions given for Mrs. A’s movements are according to the words used in XYZ country.

Q.3) Find the total vertical distance travelled by Mrs. A in the journey.

[a] 10 km  
[b] 20 km  
[c] 30 km  
[d] 40 km

Solution 3. (c)
West = North
North = South
South = East
East = West

Vertical distance travelled = 10+20 = 30 km
I.4) In a country XYZ, west means North, North means South, South means East and East means west. In this country XYZ, Mrs. A start walking towards South for 12 km and then 10 km further towards West. Mrs. A then travels a distance of 15 km towards her right and again travels 20 km towards her right. Finally, Mrs. A travels 18 km towards East. The directions given for Mrs. A’s movements are according to the words used in XYZ country.

Q.4) If displacement is defined as the shortest distance between the initial and the final points, find Mrs. A’s displacement.

[a] \(\sqrt{181}\) km
[b] 10 km
[c] 20 km
[d] none of these

Solution 4. (a)
West = North
North = South
South = East
East = West

Displacement = \(\sqrt{9^2 + 10^2} = \sqrt{181}\) km
Q.5) There are four arrows pointing towards the four primary directions – East, West, North and South. For every hour the arrows inter change with the next arrow in clockwise direction. After the 67th hour, in which direction does the arrow which was primarily pointing towards the North is pointing now?

[a] East
[b] West
[c] North
[d] South

Solution 5. (b)
After every four hours the pointers are coming to their original positions. Hence, after 67th hour, means 67/4 = 16+3(remainder)
For 3 hours the pointer which was facing North points towards West.
Q.6) I am facing North. I turn 90 degrees in the clockwise direction and then 135 degrees in the same direction and then 270 degree anti-clockwise. Which direction am I facing now?
[a] South West
[b] South
[c] West
[d] North west

Solution 6. (d)
After turning 90 degree I am looking in the East direction, then after turning 135 degrees in the same direction I would be facing the South West direction. At last after turning 270 degrees anticlockwise I would be facing the Northwest direction.

Alternative method:
Anticlockwise = 270
Clockwise = 90 + 135 = 225
So, finally I turned anticlockwise = 270-225= 45 degrees
45 degrees anticlockwise from the North is NorthWest.
Q.7) The Suvarna Rekha river flows from west to East and on the way turns left and goes in a quarter circle around a Shiv temple, and then turns left in right-angles. In which direction is the river finally flowing?
[a] North
[b] South
[c] East
[d] West

Solution (a)

From the given figure it is clear that the river would be flowing North.
Q.8) K is a place which is located 2 km away in the North West direction from the capital P. R is another place that is located 2 km away in the South West direction from K. M is another place and that is located 2 km away in the North West direction from R. T is yet another place that is located 2 km away in the South West direction from M. In which direction T is located in relation of P?  
[a] South West  
[b] North West  
[c] West  
[d] North

Solution 8. (c)

T is located at West of P.
Q.9) One morning Ravi observed that his shadow is falling to his right, which direction is he facing?
[a] North
[b] South
[c] East
[d] West

Solution 9. (b)
In the morning the Sun will be in the East. Hence, the shadow casts towards west i.e., Ravi has West to his right. Ravi is facing South.
Q.10) One evening Avinash and Abhinav are talking to each other while sitting at either ends of see-saw facing each other. Avinash observed that his shadow is falling to his left. Which direction is Abhinav facing?
[a] North
[b] East
[c] west
[d] South

Solution 10. (a)
In the evening, the Sun will be in the West. Hence, the shadow casts towards East, i.e., Avinash has East to his left. Avinash is facing South and Abhinav is facing North.