24. The six faces of a dice have been marked with alphabets A, B, C, D, E and F respectively. This dice is rolled down three times. The three positions are shown as:

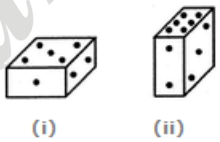
Find the alphabet opposite A.

(a) C (b) D (c) E (d) F

25. Three positions of a dice are given. Based on them find out which number is found opposite the number 2 in the given cube.

(a) 6 (b) 5 (c) 3 (d) 1

26. Two positions of a parallelepiped are shown below. When the number 3 will be on the top side, then which number will be at the bottom?



(a) 1 (b) 4 (c) 5 (d) 6

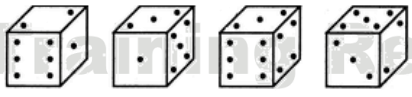
27. A dice is numbered from 1 to 6 in different ways.

If 1 is adjacent to 2, 3 and 5, then which of the following statements is necessarily true?

(a) 4 is adjacent to 6 (b) 2 is adjacent to 5

(c) 1 is adjacent to 6 (d) 1 is adjacent to 4

28. If the total number of dots on opposite faces of a cubical block is always 7, find the figure which is correct.



(a) Fig.1 (b) Fig.2 (c) Fig.3 (d) Fig.4

29. A dice is numbered from 1 to 6 in different ways.

If 1 is opposite to 5 and 2 is opposite to 3, then

(a) 4 is adjacent to 3 and 6

(b) 2 is adjacent to 4 and 6

(c) 4 is adjacent to 5 and 6

(d) 6 is adjacent to 3 and 4

30. Three different positions X, Y and Z of a dice are shown in the figures given below. Which of the hidden numbers adjacent to 5 in position X is/are common to the hidden numbers adjacent to 5 in position Z?

(a) 1 and 4 (b) 2

(c) 6 (d) None

REASONING ABILITY

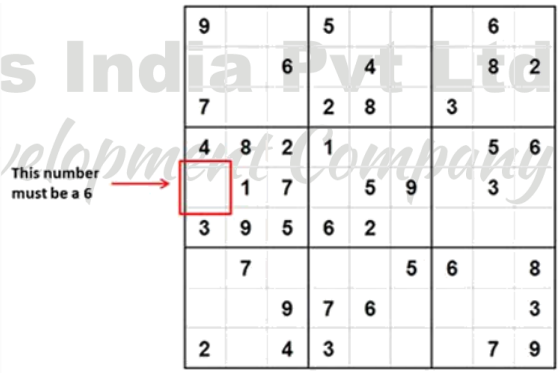
SESSION – 12

SUDOKU – I

- The objective is to fill a 9x9 grid so that each column, each row, and each of the nine 3x3 boxes (also called blocks or regions) contains the digits from 1 to 9.
- A cell is the smallest block in the game. A row, column and region consists of 9 cells and the whole game consists of 81 cells. A region has thicker lines surrounding it. This simply makes it easier to play the game.

5				1				4
2	7	4				6		
	8		9		4			
8	1		4	6		3		2
		2		3		1		
7		6		9	1		5	8
			5		3		1	
		5				9	2	7
1				2				3

Look for the easy play first: When you first start to play a Sudoku puzzle, look for where you have the easiest opportunities to add a number. Usually this is where there is a crowded square or a row that is almost full of numbers. You can quickly use process of elimination to figure out where to place a number.

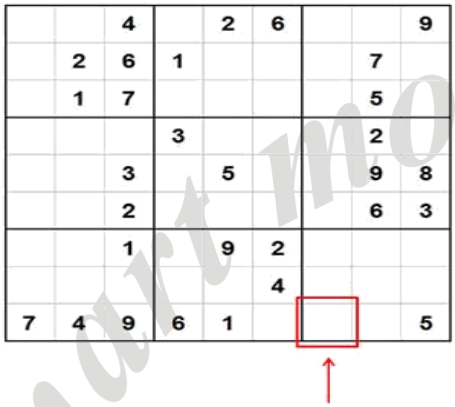


9			5				6	
		6		4			8	2
7			2	8		3		
4	8	2	1				5	6
	1	7		5	9		3	
3	9	5	6	2				
	7				5	6		8
		9	7	6				3
2		4	3				7	9

For example, if there is a square that already has numbers 1-7, you know that you only need to figure out where to put numbers 8 and 9. Look at the rows that feed into that row or square – sometimes you will be able to eliminate one number or the other, and can quickly fill in the gaps.

Look for which numbers are missing: Sudoku is about placing numbers where they don't already exist – it's a logical process of elimination. If a number already exists in a row or square, then that number cannot be placed again. Your challenge is to keep thinking and looking and spotting opportunities to add numbers where they haven't already been placed.

For example, if the top row of a Sudoku puzzle already has the numbers 1, 7, 8, 5, 9 and 2, this means that the row still needs numbers 3, 4, and 6. Look in the nearby rows (within the same squares) to see if you can rule out any of those three missing numbers.



Keep moving: Sudoku rewards the "roving eye" – if you feel stuck, don't concentrate too hard on one part of the puzzle grid. Instead, let your eye and your mind wander to a different place on the grid where you haven't placed any numbers yet, and see which new possibilities become apparent to you.

1.

	6	1	2	4	
2		5			1
4				5	6
			4	3	
		2	5		
	5			2	

2.

	4			1	
5	6		2		
2		4	3	2	
	1		5		6
			1	6	
			4		3

3.

	1			4	
		2		6	5
	2	3	4		
6		5		1	2
	6	1			
3		4			

4.

7	4			9		2		
8	9			1	7		6	5
				8				
			9	5		3	2	1
	3						8	
9	8	2		3	1			
				7				
4	1		3	6			5	2
		7		2			1	3

5.

	1	3		4	9	7	8	
9								4
5	4			7	1	9	2	
1			6				9	
6		7	9			5		
		5					6	
	6				5			8
8			1				4	
				3	8	6	1	

6.

	7	5				4	2	6
9		2				3		
	3			5				
				8				7
3					7	1	8	
7				4		2	6	
	2		4	9		5		
	8							
5	9	1	7	2	8		4	

7.

	2							
	8				1	2	4	
		6	2	8		1		
				3				6
			6					
			9		8	3		1
2	4		3					5
		8	7	2				3
		3		1	5			

REASONING ABILITY

SESSION – 13

SUDOKU – II

1.

7	2		3	5				
		3	7	6				5
5					8	3	4	
4		2			5		3	
	3		4		2		8	
	8		1			7		4
	1	9	5					2
6				2	1	8		
				4	3		7	9

2.

			3	1				
	6					2	9	4
	5		6		2			
6				7				5
				6			1	
1	4	3			9	6		
8		6		3				
5				4		9		1
7				5		8	6	

3.

			8					1
		5					4	2
1	4	9					5	
7	9	1			6			
					5		7	
	3				9	2		
			6		3	9		
6				1			2	
		2		4		1		3

4.

7		1						8
		3			4		7	
				5	7			1
				2	8			
3		4				6		5
	6		4			7		
	4		3		1		2	
1			8			5		3
2			5	4				

5.

						5	8	
1		8		3			9	
	4			2			1	
	3		4	6				
		2						3
		6						7
			5					
8	2	7						
			1					