# 空 <br>  <br> ONE WEEK • MANY PUZZLES • HUGE SIZES 

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## INSTRUCTION BOOKLET

## AUTHORS FOR

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## ABOUT THE TEST

The World Puzzle Championships for the year 2017 were organized by Logic Masters India from the 18th to the 22 nd of October 2017. To provide a sample of what a solver can expect from purchasing the content of these Championships, we have selected one Puzzle round from WPC to be made available publicly on the LMI website. This will also provide a platform for solvers who could not be present at the events to test themselves against the Champions and other world class solvers.

This contest will contain the puzzles from the Marathon round of WPC. All puzzle grids in this test are marathon grids, i.e. they are much bigger in size than usual.

## SCORING

Points table is given below.

| Suguru -65 points | Statue Park -65 points |
| :--- | :--- |
| Snaky search -80 points | Spiral Galaxy -110 points |
| Gapped Kakuro -170 points | Palindrome -170 points |
| Slitherlink -190 points | Nurikabe -250 points |

Participants may submit answers at any time during the days that the contest is open. There will not be any fixed time for submitting, and there will not be any password for the PDF. The PDF will be available at 12:00:01 AM, IST and answers may be submitted till the contest ends.

## INSTANT GRADING

There will not be any instant grading for this test. Results will be shown after the contest ends only.

## NOTES ABOUT ANSWER KEYS

1) Please note that if red warning is displayed while submitting, the submission can never be correct.
2) All circled cells follow left to right direction.
3) All arrow marks follow top to bottom and, then left to right direction
4) If both rows and columns are marked, row answer key needs to be entered first
5) If any row/column/cell has a double or triple digit answer key, only the unit (right-most digit) digit should be entered. (This rule is applicable to all puzzles except Statue Park, Snaky Search, Gapped Kakuro and Palindrome).

Place a digit in each empty cell such that every thickly outlined region of size N contains all digits from 1 to N . The same digits do not touch each other, even diagonally.

Answer key 1: For the $1^{\text {st }}$ marked row, enter all digits from left to right. For the example, answer key is 32121 Answer key 2: For the $2^{\text {nd }}$ marked row, enter all digits from left to right. For the example, answer key is 21212

SUGURU



STATUE PARK

Place each of the shapes from the given bank into the grid, with rotations and reflections allowed.
Shapes must be placed exactly as many times as they appear in the bank. No two shapes can overlap or touch each other by a side, and all of the space not occupied by shapes must form a single connected area. Black circles in the grid indicate cells that must be contained in one of the shapes, and white circles represent cells that must not be contained in a shape.

Example puzzle uses tetrominos. Contest puzzle uses 2 sets of standard pentominos. The labels in the shapes are used for answer key only.

Answer key 1: Enter the first three pentominos seen along the marked rows. (- if not enough pentominos). For the example the answer key is OL-,Z--
Answer key 2: Enter the first three pentominos seen along the marked columns. (- if not enough pentominos). For the example the answer key is OT-,LZI



Find the given list of words in the grid. Each word is in the form of a Snake. A snake cannot touch/cross itself or otherSnakes, even diagonally. The letters in the Snake must follow the same order as the word. Black cells cannot be visitedby Snakes. Ignore any punctuation, numbers or special characters in the words.

Shading is for visual/ aesthetic appeal only. Ignore shading while solving.

## SNAKY

 SEARCHAnswer key 1: Enter the letters used by snakes, in marked rows (from left to right). For the example, the answer key is AL,DNIK
Answer key 2: Enter the letters used by snakes, in marked columns (from top to bottom). For the example, the answer key is DAID,OU


Divide the grid into $180^{\circ}$ symmetrical regions along the gridlines, so that each cell is part of only one region. Each region must contain exactly one black dot, which represents the central symmetry point of the region. All circles are given and all white cells must be part of a region. The black cells are not part of any regions.

Shading is for visual/ aesthetic appeal only. Ignore shading while solving.
Answer key 1: Enter the number of consecutive cells separated by borders in each of the corresponding directions, ignoring black cells, in marked rows. For the example, the answer key is 13,131
Answer key 2: Enter the number of consecutive cells separated by borders in each of the corresponding directions, ignoring black cells in marked columns. For the example, the answer key is 13,23



Place a digit from 1 to 9 in some of the empty cells. The sum of digits in each horizontal and vertical group of cells is given on its left and top respectively. Digits do not repeat within any set of consecutive empty cells. Some cells can be left blank but blank cells cannot touch each other by a side.

Ignore the circles while solving. Shading is for visual/ aesthetic appeal only. Ignore shading while solving.

## GAPPED

 KAKUROAnswer key: Enter the digits in circled cells from left to right. For empty cells, enter $X$. For the example, the answer key is 125X3


The grid is divided into multiple subgrids, separated by thick lines. Place a letter A or B or C in some of the cells. Some cells will remain blank, but blank cells can't touch each other by a side, even across subgrids. Each row and each column of subgrids form palindromes. A palindrome has at least 2 different letters and reads same from both sides, ignoring the blank cells. Two cells, with different letters, cannot have a thick line between them.

PALINDROME Ignore the circles while solving.
Answer key: Enter the digits in circled cells from left to right. For empty cells, enter $X$. For the example, the answer key is BBBBACX.


|  | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{A}$ |  | $\mathbf{B}$ | $\mathbf{C}$ | $\mathbf{C}$ | $\mathbf{C}$ | $\mathbf{B}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{B}$ | $\mathbf{A}$ | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{B}$ | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{A}$ |  | $\mathbf{B}$ |
| $\mathbf{A}$ | $\mathbf{C}$ | $\mathbf{C}$ | $\mathbf{A}$ | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{B}$ | $\mathbf{B}$ | $\mathbf{B}$ | $\mathbf{A}$ |
| $\mathbf{B}$ | $\mathbf{A}$ | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{B}$ | $\mathbf{A}$ | $\mathbf{C}$ | $\mathbf{A}$ |  | $\mathbf{B}$ |
|  | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{A}$ |  | $\mathbf{B}$ |  | $\mathbf{C}$ | $\mathbf{C}$ | $\mathbf{B}$ |

X $C$ B A $\boldsymbol{A}$ A $\mathbf{B}$


Draw a closed loop by connecting dots along the dashed lines. The loop can't touch or cross itself. A number in a cell indicates the number of segments used by the loop around that cell.

Answer key 1: Enter the length of longest loop segments, in marked rows (from left to right). For the example, the answer is 13
Answer key 2: Enter the length of longest loop segments, in marked columns (from top to bottom). For the


Shade some empty cells to form distinct white areas, each containing exactly one number and with the same area in cells as that number. Two white areas may only touch diagonally. All shaded cells must form a single connected area. No $2 \times 2$ group of cells can be entirely shaded.

Answer key 1: Enter the lengths of consecutive spans of shaded and unshaded cells, for the marked rows. For the example, the answer is 13111,4111
Answer key 2: Enter the lengths of consecutive spans of shaded and unshaded cells, for the marked columns. For the example, the answer is 121111,7


