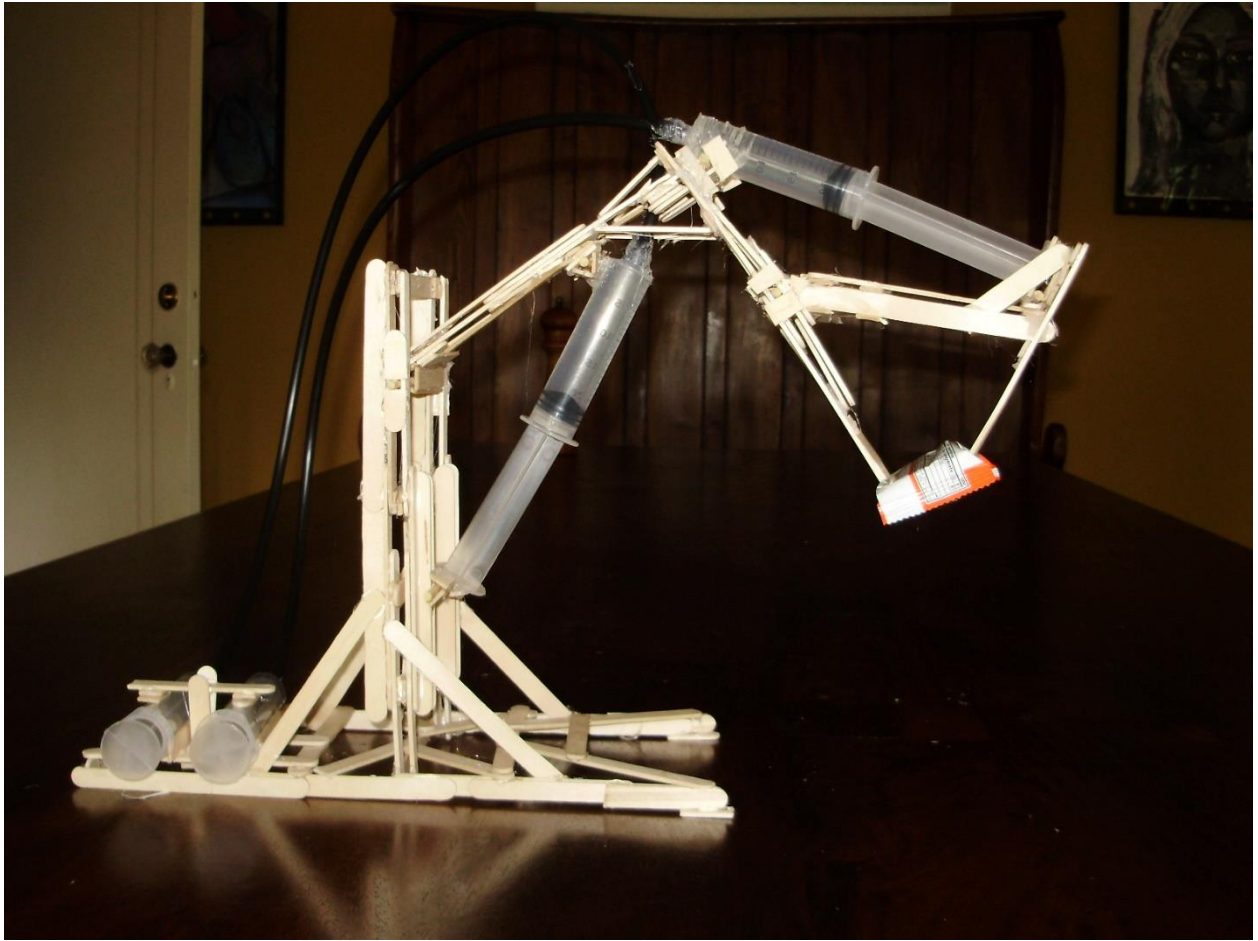


AQUA-CRANE

"Many a little, make mickle."



❖ *PROBLEM STATEMENT*

To design and fabricate a hydraulically actuated mechanical arm, which can pick up cups and wooden blocks and place them on the staging area in the correct order to form the given word and a pattern respectively, in the shortest possible time.

❖ *RULES AND REGULATIONS*

Pre-Event Rules

- The "mechanical arm" should be setup in the staging area before starting the event.
- No part of the arm should cross the demarcating line before the commencement of event.
- The teams are allowed to start operating the controllers only after the start of timer, when instructed by the organizer.

Regulations

- A team can consist up to **4 members**.
- The arm should have a stable base and must be able to stand by itself at all positions.
- All the joints of the arm must be actuated hydraulically and must be operated with manual controls.
- The controls must not be mounted on any of the moving parts of the arm. The controls may be placed on the base or any part of the staging area.
- The participants will be allowed to handle only the controls and not the arm or the cups during the event.
- The participants are allowed to use any material (Popsicle sticks, ply wood, etc.) to build the arm. Stock arms are not allowed.
- Electrical or Electronic components such as motors, batteries should not be used.
- Final dimensions may be subjected to changes.

Eligibility

- All students with a valid identity card from their respective educational institution are eligible to participate in the event.

❖ *INTRODUCTION OF EVENT*

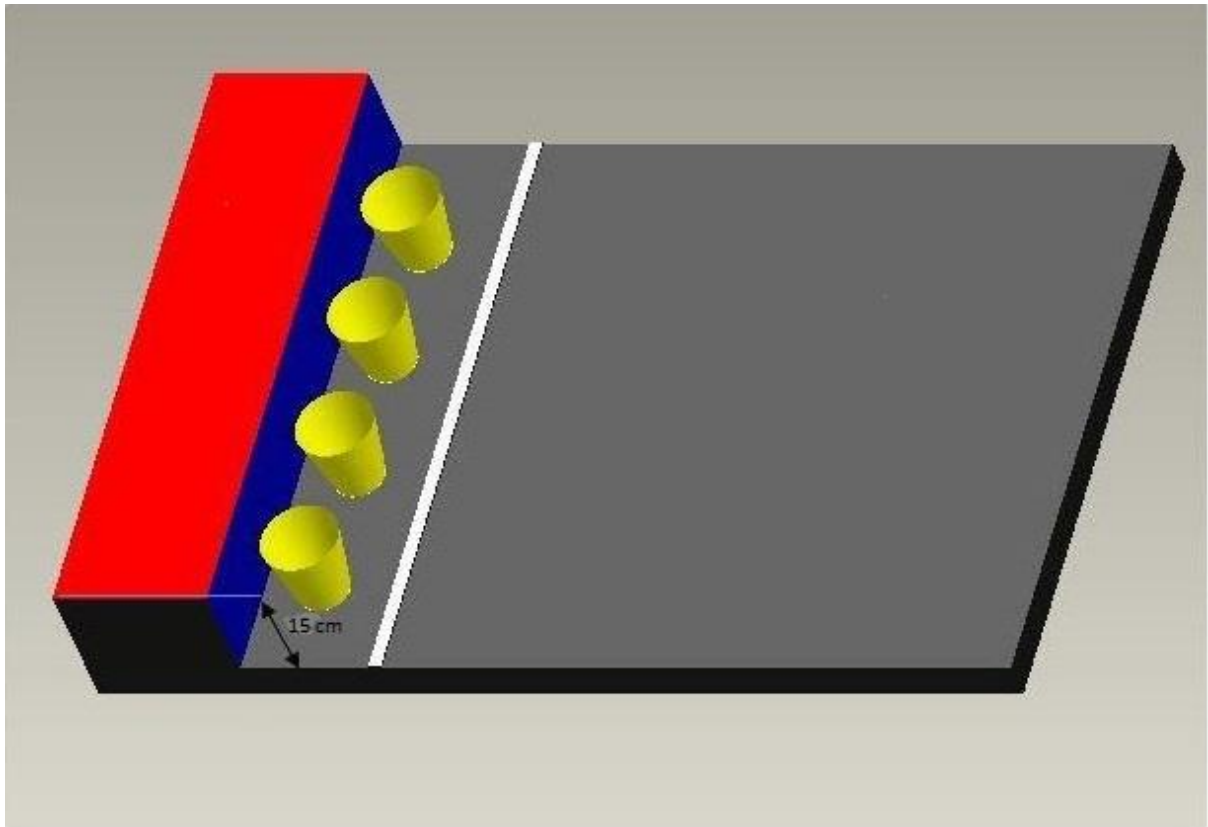
This event will be divided into two stages.

- Stage I will comprise of a task of arranging jumbled letters on cups to make a correct word.
- Stage II is about your imagination in which you have to form a pattern out of wooden blocks.

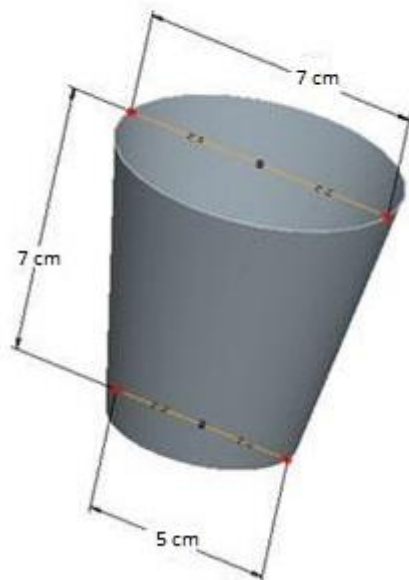
Stage I

- Cups, with letters printed on them will be placed at Zone B and they should be picked and placed on the elevated platform (Zone A) in sequence to get the right word.
- The timer will be stopped when all the cups have been arranged to form the right word in zone.

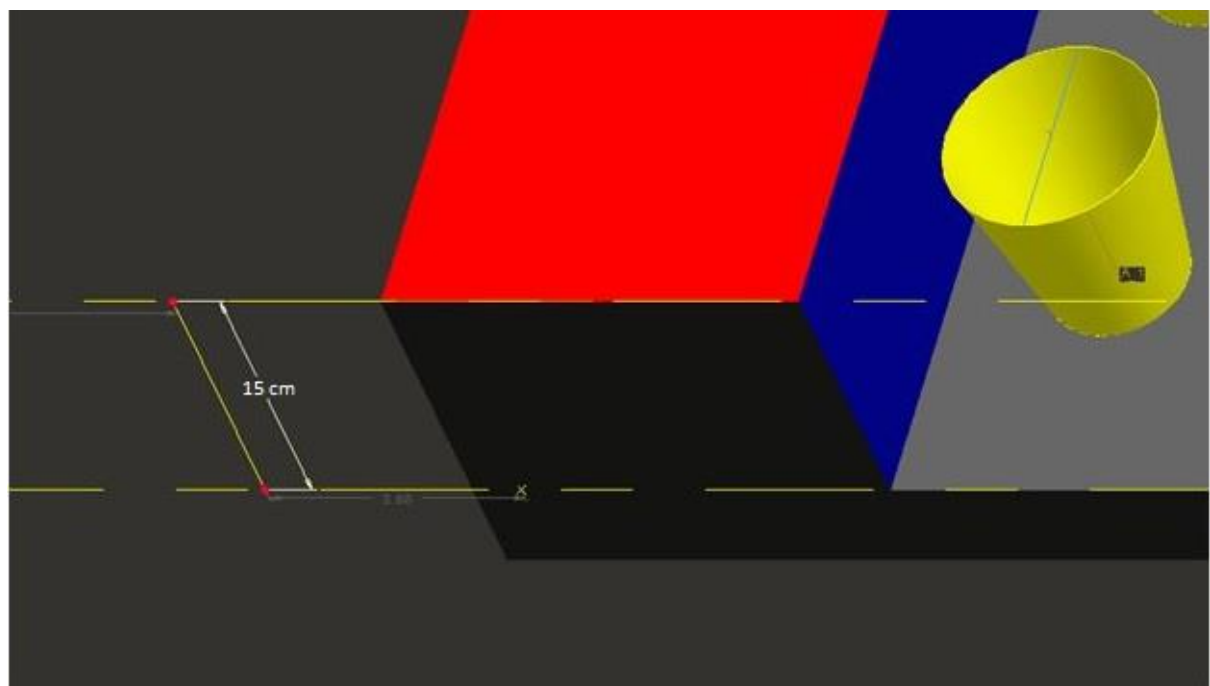
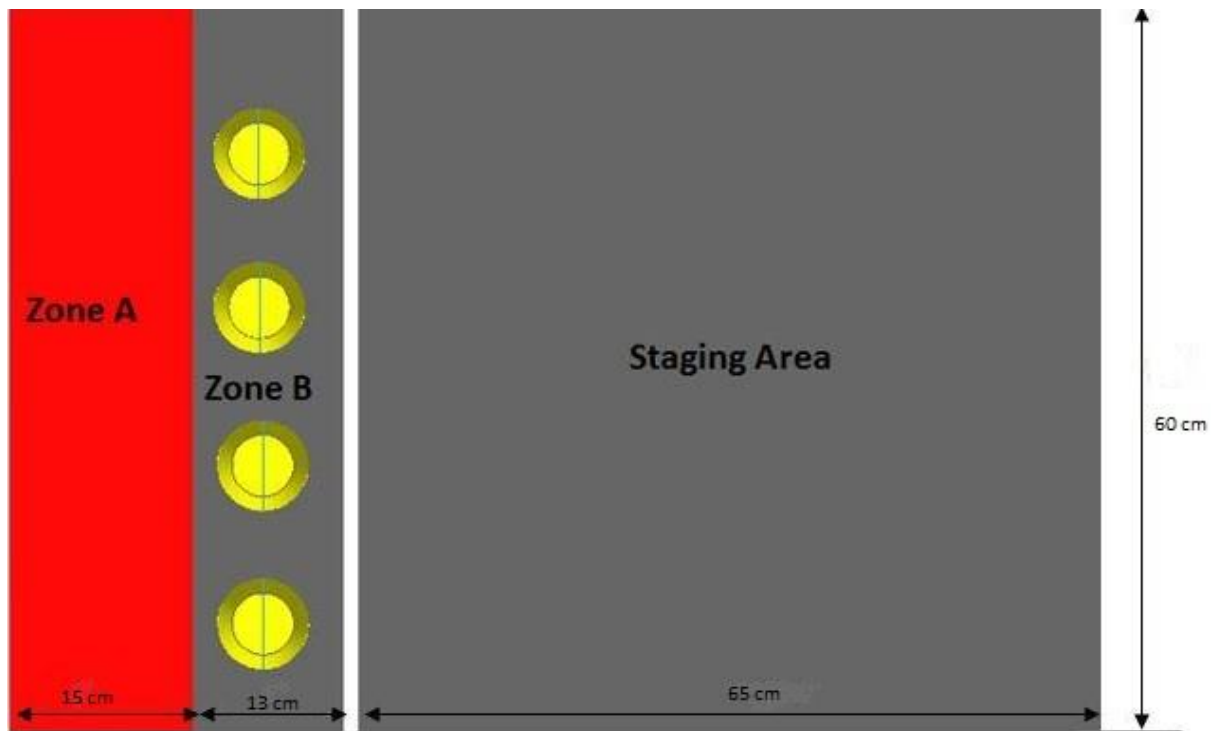
Arena Dimensions



Cup



Layout



Stage II

In this stage we are going to check your imagination, so you have to think of a beautiful and logical pattern which can be formed out of the wooden blocks in the given time. The judging criteria will depend on the complexity of pattern and innovation of the team.

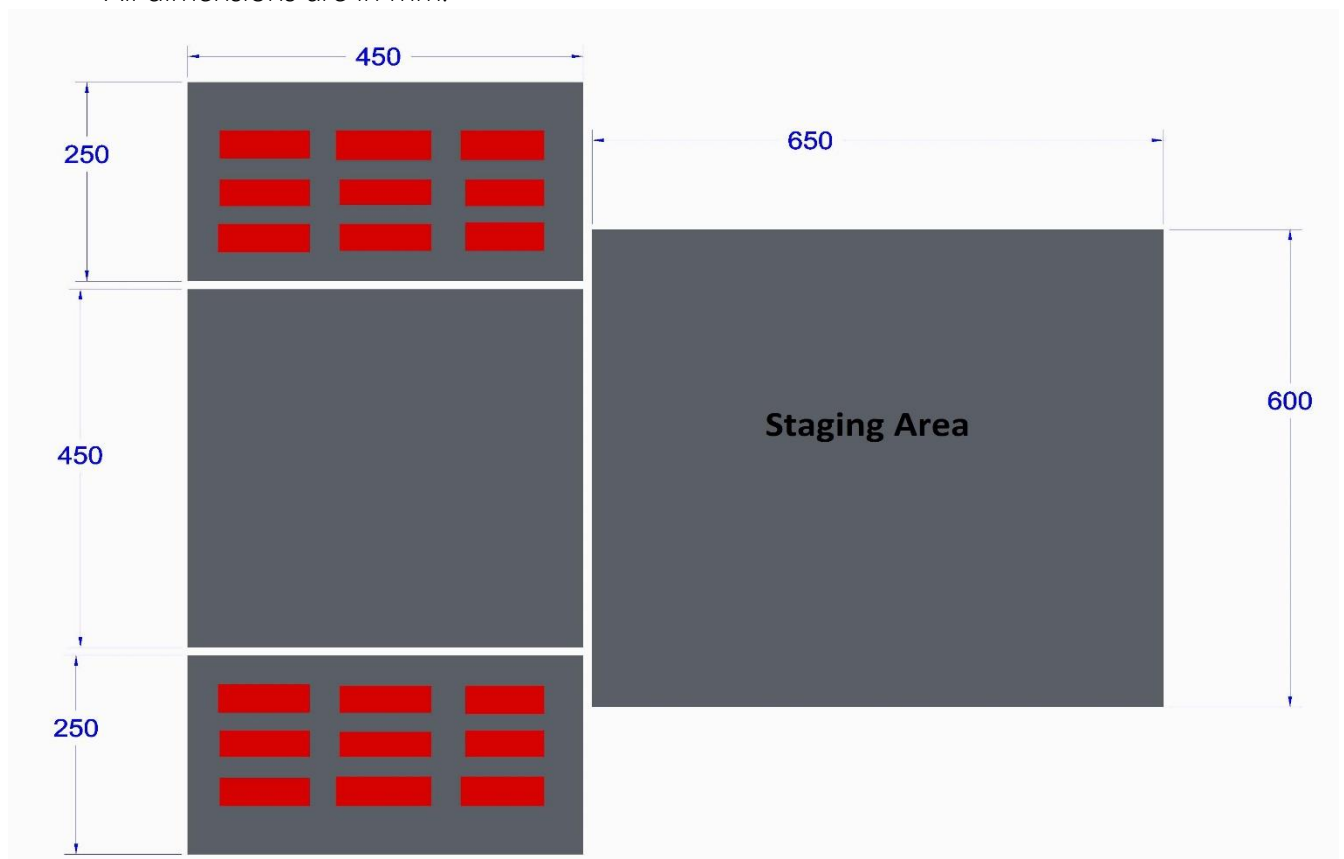


Block specification

- Length – 50mm
- Width – 40mm
- Height – 40mm

Layout

All dimensions are in mm.



JUDGING

- The judging will be based on time taken to achieve the task and special prizes will be given for design.
- Decision of the judge will be final.
- Indisciplinary behaviour will lead to disqualification.