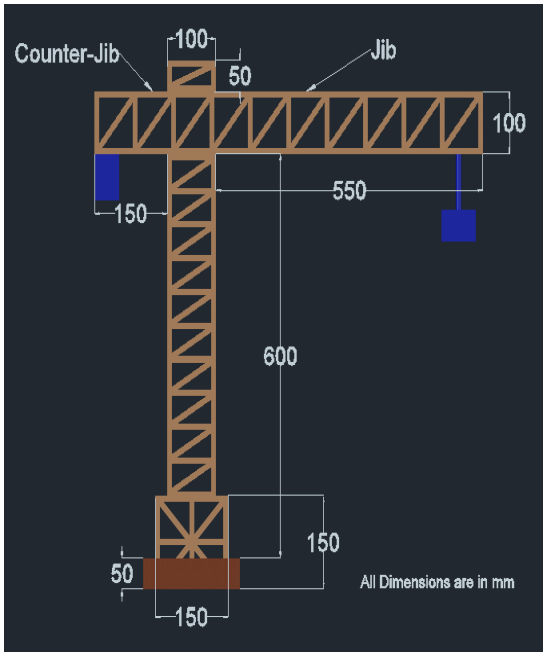
Crananza Rulebook

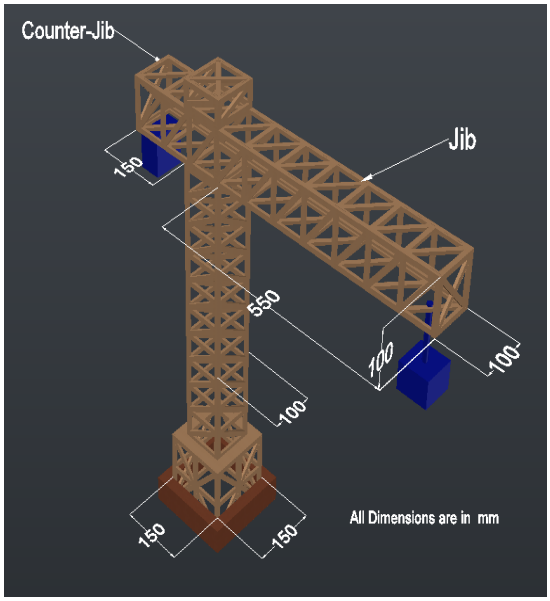
A. Objective : To build a **High Tower Crane** using Popsicle sticks & Fevicol that can sustain the maximum possible Load at the free end of the crane with minimum deflection, satisfying all the understated constraints.

B. Constraints

1. Building Materials:
   i. Popsicle Sticks
   ii. Fevicol
2. Dimensions:
   i. Span Length - **800 mm ± 2% mm** (Main Span – **550mm** & Counter Weight Span-**150mm** from the edge of column)
   ii. Span Width up to **150mm** from bottom – Max **150 mm**
   iii. Span Width above 150mm from bottom – **100 mm**
   iv. Max Jib Cross Section – **100 mm x 100 mm**
   v. Column Height (above the jib) – **50 mm**
   vi. Column Height (below the jib) – **600mm ± 10mm**
   vii. Total height of the crane including base – **800 mm**
   viii. The span must be able to support the load at the free end.
   ix. Maximum 2 sticks can be overlapped.
   x. The Crane should have square/rectangular footing that fits in the base of **150mm x 150mm x 50mm.**

To clear all doubts following diagram will help:





*This is just a reference image actual model may differ.

C. The GAMEPLAY

1. Teams will be given **30 minutes** to make final changes in their structure before the testing, and once the changes are done, the structure will be weighted. After weighting is done no changes are allowed in the structure. The inspection team will test that the construction rules are followed.
2. Crane will then be subjected to loading.
3. Loading will be done using a 10cmX10cm plate connecting hook at its centre.
4. Point loading will be applied at a distance 50mm away from the free end of the jib.
5. 30% of the point load applied at the free end of jib will be applied at 25mm away from the end of the counter jib as a counter-weight.

D. Judging and Scoring

1. $Final\ Score = \frac{\text{L (Load at which beam fails)}}{\text{W (weight of crane)}}$
2. The excessive use of materials at joints may lead to deduction of points in the overall score.
3. The Crane with the highest score wins the event.
4. Crane failure will be considered the point at which any member of the Crane breaks or its deflection exceeds **50mm.**

E. Team Specifications

A team may consist of a maximum of **4 members**. Students from different educational institutes can form a team.

F. Certificate policy

Top 3 teams will be awarded with certificate & prize money.

G. Contact Information

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