A. Objective

To build a cantilever bridge within our specifications. It must be constructed of approved materials.

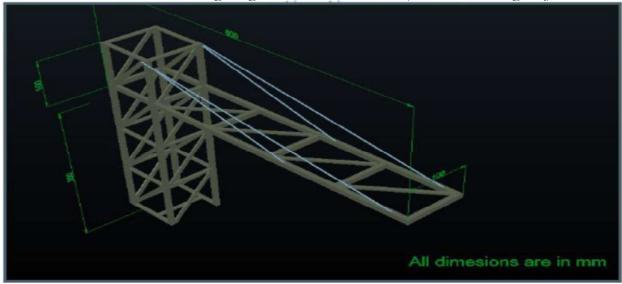
B. Apparatus

- a) Building Materials:
 - 1. Popsicle sticks (For making the whole beam)
 - 2. Cotton threads (For making cables)
 - 3. Glue (For joining the popsicle sticks)
 - 4. Paper (For reinforcing joints)

b) Dimensions:

- 1. Min Span Length 600 mm
- 2. Min Column height 300mm
- 3. Min Span Width 100 mm
- 4. Min space between two parallel sticks 50mm
- 5. Only two cables can be attached on each side.
- 6. The column should be compulsorily square in dimensions.
- 7. The height of column above the span should be atleast100 mm.
- 8. The beam must be able to support the load at the free end.
- 9. After column span should be in one plane only.
- 10. Maximum 3 sticks can be joined together.

To clear all the doubts following diagram clears all doubt: (NOTE: This fig. is just a demo.)



C. The Competition:

- 1. Maximum 4 members are allowed in one team.
- 2. Teams must submit their bridge 1/2 hour before the competition for inspection.
- 3. Inspection team will test that the construction rules were followed.
- 4. Once the bridge is in position, loads will be attached in the position indicated above. The load will hang below the bridge.
- 5. Beams will then be subjected to loading. Bridge failure will be considered the point at which the bridge breaks.
- D. Judging and Scoring:

1. Final Score A =
$$\frac{2*W*L*H}{D*w}$$

Where, W = Weight taken by structure (in gram)

H = Height of column from bottom to the beam of structure (in cm)

L = Length of span (in cm)

D = Deflection (in cm)

w = Weight of the structure (in gram)

- 2. In case two teams have same score then the team having higher value of $(\frac{W}{D})$ will have preference over the other team.
- 3. The excessive use of materials at joints may lead to deduction of points in overall score.
- 4. The bridge with the highest score wins the event.
- 5. Violation of any of the above stated rules may lead to disqualification or deduction in score.
- 6. If the number of participants is less than 5, the event will be cancelled out.
- 7. And if participants are less than 10, than the price money will be given to only first two teams.

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