

POPSICLE BRIDGE



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1. INTRODUCTION

This Ignus, we bring you the most awaited popsicle bridge making competition where you will get a chance to make Sturdy, Attractive and the most efficient bridge and thereby getting a chance to showcase your all knowledge about Civil Engineering.

2. EVENT RULES AND SPECIFICATIONS

2.1. ELIGIBILITY

Any student from a recognized institute/college can participate in this event.

2.2. TEAM SIZE

- Teams as well as individuals both are allowed to participate.
- A team may consist of maximum 3 members. Students from different colleges cannot form a team.
- The students must carry valid student ID cards of their college which they will be required to produce at the time of registration.

2.3. RULES

- The bridge must be **50cms-60cms** in length (not more than 60cms) and **10-15cms** in width and height may vary w.r.t design used.
- Bringing any ready-made real model or any part of the design is strictly prohibited.
- Participants can bring their pre-designed model made on paper as well as on any CAD software.
- There is no limit on number of sticks used by the participants but obviously less weight and more weight bearing design will get more marks.
- Overlapping of sticks can be done only upto 50%. In case of overlapping more than 50%, penalty of 20% will be applied on the overall efficiency of bridge constructed.
- Apart from the popsicle sticks only the following items are allowed in the competition
 - Wood glue (Fevicol)
 - 1 Glue Stick (Hot glue gun).

If participant is found with any other material other than what specified may lead to their Disqualification.

- **Abstract test:** - All teams must submit Abstract of their design they are going to make before the of event.

Abstract must contain: -

- First page; Which type of bridge is being made, with definition of that type of bridge and practical examples.
- Second page; Dimensions of bridge being made and some animated images.
- Third page; Approx. weight of bridge model being made (in gms.) and approx. value of weight bridge will bear during load testing (in kgs.).
- At the last, name of team, name of team members must be mentioned.
- To make abstract attractive, relevant images can be added.

2.4. JUDGING CRITERIA AND PROCESSES

- First the Bridge will be judged on visual basis for Aesthetics, Cleanliness and any discrepancies. (10 marks)
- Second, it will be inspected for if all the dimensions are as specified or not. (5 marks)
Note: If dimensions are not as specified, 1 mark for each 1 cm error will be deducted. For more than 5cms error, the team will be disqualified.
- Third, the total weight will be measured using common weighing machine and will be used to calculate Efficiency of the bridge further.
- Forth, the model will be kept on a platform depicting a river of 50cms river width.
- Fifth, weight bars will be kept on the centre of the bridge model till the model ruptures (therefore keep clearance for keeping weights), weight will vary from grams to milligrams for a better competition strating from a minimum weight of 2 kgs.
Hence, the **Efficiency** will be calculated by
Efficiency= Max Load bearing/ weights of the bridge (30 marks)
- Extra 5 marks will be awarded for any type of genuine creativity or innovation is implemented on the model. For this step team has explain their idea to judge and convince him for its importance. (5 marks)
- The Bridge then will be matched with the Abstract presented by the team and if
 - Design matches as specified in Abstract (5 marks)
(Note: only Judge will decide this point no argument after final decision.)
 - Dimensions matches as given in Abstract (with 0.5cms margin) (5 marks)
 - Weight of the Bridge matches (with 5gms margin) (5 marks)
 - Bearing strength is predicted right (with 10gms margin) (5 marks)

Total marks- 70

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