PRODYOGIKI‘19

Bascule Bridge

Exercise your engineering skills and unleash the builder in you! Give your constructing abilities wings to fly high with ISTE as we take you to a different level of engineering this year with BASCULE BRIDGE! Design your own hydraulic bridge and give it a physical shape just like a bascule bridge.

PROBLEM STATEMENT:
You have to design a one-fold Hydraulic bridge by using the provided material. The span length should be appropriate so as to carry load and should lift it up to some height.

RULES:
1. No. of participants in a team must be 4 or 5.
2. The span of hydraulic bridge must be of Popsicle sticks only and MDF sticks be can used at base, abutment & hinge point.
3. Span length should be of at least 30cm.
4. Lifting Syringe should be placed at least 5 cm away from hinge point.
5. Width of the span should be appropriate so as to provide a proper loading platform.

MATERIALS PROVIDED:
- Popsicle sticks & MDF sticks
- Glue Gun & Glue sticks
- Lead Pencil
- Two syringe with fitted pipe system
- Measuring Scale

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JUDGING CRITERIA:

- Teams not fulfilling 2, 3 & 4 criteria will be disqualified immediately.
- Gradual weights will be applied onto the platform and lifted to check the weight handling capacity of the bridge.
- Points = 2[Vertical Lift] + 0.5[Weight Lifted]
- Team having maximum points will be declared winner.

FAQ:

1. What is a hydraulic bridge?

   A hydraulic bridge is basically any folding/movable bridge which uses hydraulic mechanism to lift the weight of the deck to make way for the passing ship/water vessel. These movable bridges are commonly known as Bascule bridges among Civil Engineers worldwide.
2. What is span?

   Span is the distance between two intermediate supports for a structure.

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