Aerial tramway

Introduction:

We know that Ropeways are needed for crossing over large spans of land or huge masses of water. The design and construction of such ropeways is a necessity. In this event one hast to design and make a model of ropeway. It tests your technical skills and application of them in practical life. Here what you need to know is simple law of mechanics. Cable car or tram system is one of the examples for this type of rope way systems. Come and show your skills in designing the structure using simple things.

Our aim is to prepare a ropeway system. We have to design and construct two self-supporting vertical structures of different heights so as to support the string of the ropeway.

Event Procedure:

- Each team may consist of minimum two to maximum three students.

Round 1:

- Round 1 is a preliminary round.
- It is an aptitude test in which it consists of multiple choice or blank questions from civil department and general aptitude.

Round 2:

- In this round , two vertical structures with different heights has to be designed, analyzed and constructed.
- Each model is then tested according to judging criteria.
- The model is to be designed on spot.

Specifications:

- The structure should be constructed with Popsicle (Ice cream) sticks.
- The structure may be truss structure, hallow columns etc. depending on participants innovativeness.
- The minimum height of the smaller tower should be 30cm.
- The maximum height of the larger tower should be 80cm.
- The ratio between the heights of the structure to the length of base should not be more than 1.
- Width of the structure should not be more than 12 cm.
- The structure should sustain stress by moving load.

- Load should move between higher to lower.
- The hook and load assembly should be able to slide on the string which is supported by the two structures.
- Only one participant is allowed to perform the loading (teammates can also assist him).
- Holding the load carrier during loading is not allowed.
- Anchoring should be done to bases for stabling. Distance between them should not be more than twice that of horizontal distance between towers.

Rules and Regulations:

- The structures should support moving load without any external support.
- Failure of a single member is considered as failure of whole structure.
- Weight should move from one end to another.
- The structure should be strong enough to support a moving load without sway or deformation.
- Judgment is decided with least slope of rope, high load carrying capacity, less self-weight.
- The decision of event coordinator is final and binding.

Event Coordinators:

T. Ram Charan Teja +91-9494889518

G. Surendra kumar +91-9440206559