



GTU TECHFEST 2017

Gujarat Technological University,
Established Under Gujarat Act No.: 20 of 2007

Website: techfest.gtu.ac.in
Email: gtutechfest@gtu.edu.in

Venue:
L.D. College Of Engineering,
Near Gujarat University,
Ahmedabad - 380015,
Gujarat.

PAPER-STRUCT

"Instant Model making"

Abstract:

'Structure' word is '*takia kalam*' for a civil engineer. This event basically deals with general fundamentals of structural engineering. Any structure is made up of structural members and suitable joint system. If members of structure are stiffer enough and all joints are rigid then the structure will give best performance. This is the basic concept behind this event. In this event you have to make members of newspaper by folding or rolling into required shape and construct a structure by providing suitable tap joint.

Problem Statement:

Round 1:-

To construct a structure to support overhead water tank using provided materials and specified dimensions for static gradual load conditions. Time given to construct this structure would be around 3 hours. After completion of time, the structure will be checked for specified dimension rules and then after the structure will be tested under gradual static load at top of the structure. You have to keep in mind that grade point considers three parameters, i.e. structure height, self-weight and applied load. The equation for grade point is

$$\left[\frac{\text{Height}}{1.5} \right] + \left[\frac{\text{Load} - 300}{20} \right] + \left[\frac{1000}{\text{self weight}} \right]$$

Height will be measured in centimeters.

Self-weight and load will be measured in gram.

Round 2: To construct a structure from the given drawing and as per given specifications.



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Specifications:

- Maximum Base width should not be more than 230 mm.
- Maximum c/s dimension of any member should not exceed 15 mm.
- Minimum height of structure should not be less than 30 cm.
- Maximum top width should not be more than 120 mm.

Rules:

- Use of only provided materials will be allowed.
- The adhesives can only be used to join the members and not on the free surface to increase the strength.
- You will be required to bring scissors, cutters, scale, pencil, sketch pen etc. by yourself.
- Instructions and specifications for the model will be given to participants on the spot.
- Required materials will be provided.
- The decision of event managers cannot be challenged.
- Strict discipline should be maintained during the event.
- Violation of any rule will be followed by instant disqualification.

Judging Criteria:

- The load will be applied at the top of the structure using mechanism of static load.
- All the materials and construction failing to meet the specifications will be disqualified.
- All the values of your structure dimensions will be added to the grade point equation.



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- Top 30 teams will be selected on the basis of higher grade points.
- The judging criteria for the second round will be announced on the spot before starting second round
- The basic two parameters will be considered to judge the model i.e. Maximum load carrying capacity, Accuracy in joints and overlaps.
- Participants and the teams securing Top 3 position along with complying to all rules and regulation will be awarded with GTU Techfest 2017 Participation Certificate and Winner Certificate respectively.

Team size: Maximum 4 Persons per Team

Registration Fees: Rs.50 per Participant.

Event Managers contact:

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