



## Shri Guru Gobind Singhji Institute of Engineering and Technology

Vishnupuri, Nanded (Maharashtra State) INDIA PIN 431606

Government Aided Autonomous Institute DTE Code: 2020

NAAC Accredited institute GRADE B++, CGPA 2.91 (2020-2025)

Vision Statement: Education of Human Power for Technological Excellence



## **Bridge Building**

Design and construct a bridge model using only the provided bundle of sticks and glue within the given constraints. The objective is to achieve the highest load-carrying capacity with minimum material usage to obtain the best strength-to-weight ratio.

	Bridge Construction	Bridge Testing
Date	Date: 27 Feb 2026	Date: 28 Feb 2026
Starting Time	12:00 Pm	01:00 Pm
Location	CE-I & CE-II	Strength of Mechanics lab

### **Task for Competition**

- Participants must construct a Bridge of dimensions  $50 \times 10 \times 10$  cm (Length  $\times$  Breadth  $\times$  Height) with a tolerance of  $\pm 2$  cm, using only the materials provided.
- The bridge must be structurally stable and capable of sustaining the load applied during testing.

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### **Team Formation**

- A team must consist of minimum 2 and maximum 4 participants.
  - A participant can be a member of only one team.
  - All team members must be present during construction and testing.
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### **Time Limit**

- Total construction time: 2 hours (fixed).
  - No extra time will be provided under any circumstances.
  - Late reporting may lead to reduction in construction time or disqualification.
  - Participants must report 30 minutes before the scheduled time.
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### **Materials Provided by Institute**

- Sticks – 200 Nos.
- Glue – 100 grams

### **Note:**

- Required accessories other than the above list must be brought by participants (only Scale and Scissors/Cutters are allowed).
  - No additional construction materials are permitted.
  - Sharing of materials between teams is strictly prohibited.
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### **Design Guidelines**

- Participants may prepare their design/plan beforehand, but design materials or drawings will not be allowed during construction time.
  - Pre-assembling of parts is strictly prohibited.
  - Any ready-made or pre-glued components will lead to immediate disqualification.
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### **Bridge Testing Procedure**

- Testing will be conducted by placing incremental load at the center of the deck slab. The clear span between two support for testing is 45cm.
- The load will be applied using an attachment running perpendicular to the longitudinal axis of the bridge.
- Loading will continue until structural collapse.



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- The last successfully sustained load will be considered for evaluation.
- Dislocation of any stick from the location, Breakage of any stick, Skidding and sliding of support will consider as failure.
- Testing will be conducted in front of students on the next day to ensure transparency.
- If participants are absent during testing, it will be considered their responsibility, and they will not have the right to raise cross-questions later.
- Results will be recorded and announced in the presence of team members.

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### Evaluation Criteria

The performance score will be calculated as:

Ratio = (Maximum Load Sustained Before Collapse / Weight of the Bridge )

- Higher ratio indicates better structural efficiency.
- The winner should be based on higher ratio.

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### Disqualification Criteria

- Any deviation beyond the permitted dimensions ( $\pm 2$  cm tolerance).
- Use of materials other than those provided.
- Pre-assembled parts or external supports.
- Unnecessary arguments, misconduct, or indiscipline during the event.
- Tampering with other teams' materials or models.
- Failure to follow instructions of event coordinators or judges.

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### Transparency & Discipline

- The entire event and testing of the bridge is open to all participants to maintain transparency.



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- Teams must cooperate with the organizing committee to avoid misunderstandings.
- Healthy competition and professional behavior are expected at all times.
- The final decision will be taken by the judges, and it will be binding on all participants.

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### **Additional Rules for Effective Management**

- Bridges will be measured and inspected before testing.
- Once submitted for testing, no modifications will be allowed.
- Participants must maintain cleanliness at their workspace.
- Any damage to institute property will result in penalty or disqualification.
- Safety precautions must be followed while using cutters or sharp tools.
- The organizing committee reserves the right to amend the rules if required, and participants will be informed accordingly.

### **Event Coordinator**

Mr. Ritesh Dllip Gonde: 9527509193

Mr. Ayyan Salim Shaikh: 7770083016

Ms. Munnazza Shaikh : 9403732656

Mr. Aryan Padalwar : 9403326305