राजीव गांधी राष्ट्रीय विमानन विश्वविद्यालय
RAJIV GANDHI NATIONAL AVIATION UNIVERSITY

UDAAN

नागर विमानन मंत्रालय
MINISTRY OF CIVIL AVIATION

ABHYUDAYA

Chasing the Singularity of Excellence

RULE BOOK

BRIDGE MAKING

1. Event Overview

Bridge Making is a flagship technical event under Udaan, the annual technical festival of Rajiv Gandhi National Aviation University (RGNAU). In this event, participants are required to design and construct a miniature truss bridge using popsicle (ice-cream) sticks and adhesive. The bridge is evaluated based on structural strength, design efficiency, and load-bearing capacity.

The competition is open to undergraduate and postgraduate students from institutions worldwide.

2. Problem Statement

- Participants must design and fabricate a bridge that can sustain the maximum possible load before failure.
- Only popsicle sticks and approved adhesive (Araldite or Fevicol MR White) may be used. Sticks may be cut as required, but glue must not be applied on free or exposed surfaces.
- Participants must bring their own basic stationery items such as pencils, scales, cutters, etc.

3. Design Specifications

- Span Length: 600 mm ± 20 mm
- Height: 150 mm ± 20 mm
- Width: 120 mm ± 5 mm

4. Deck Requirements

- Lower deck must be 600 mm long, continuous, horizontal, and free from bumps.
- It should allow smooth movement of a 65 × 65 × 65 mm vehicle.
- Deck thickness must not exceed 3 mm.

5 Structural Members

- Truss members: Maximum size 12 × 6 mm
  (Maximum 2 popsicle sticks may be used longitudinally)
- Floor beams: Maximum size 12 × 8 mm
  (Maximum 3 popsicle sticks allowed)
- Top chord: Central 100 mm must be continuous and perfectly horizontal.

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6. Event Structure

Day 1 – Round 1 (Construction Round)

- Bridge construction will be carried out on-site at RGNAU.
- Participants must complete construction within the allotted time under supervision.

Day 2 – Round 2 (Testing Round)

- Completed bridges will undergo load testing.
- Load will be applied at the center point until structural failure occurs.
- It will be conducted on the next day after Round 1.

7. Judging Criteria

- The bridge that sustains the maximum load will be declared the winner.
- In case of a tie, dimensional accuracy will be considered.
- Participants must clearly mark the center point for load application.
- The decision of the judges shall be final and binding.

8. Guidelines and Rules

- A team may consist of up to 4 members.
- Multiple teams from the same college are allowed.
- No modification is permitted after final measurement.
- Use of unapproved materials or violation of dimensions may lead to penalties or disqualification.
- On-spot registration is available.
- The organizers reserve the right to modify rules at any time with prior notice.

9. Person of Contact

For any queries or clarifications regarding the Bridge Making event, participants may contact:

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"No fears. No limits. Technological domination. Good luck!"

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