Mechnovation Season 4 presents

CubixMech

A national Rubik's Cube Competition

RULEBOOK

MECHNOVATION 12X

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1 . Introduction

CubixMech is a national Rubik's Cube speed-solving competition and a puzzle-solving segment of Mechnovation 12X, the flagship national event organized by the Department of Mechanical Engineering at Shahjalal University of Science and Technology (SUST). It challenges undergraduate students from universities across Bangladesh to demonstrate their speed, accuracy, concentration, and problem-solving abilities by solving a scrambled 3×3 Rubik's Cube in the shortest possible time. With its focus on logical thinking, spatial reasoning, precision, and time-bound performance, CubixMech provides aspiring engineers with a platform to showcase their cognitive skills, strategic thinking, and competitive spirit.

EVENT DATE: 28 January 2027
VENUE: A Building SUST
Room No: 309

2 . Prize pool

Champion	1st Runner-Up	2nd Runner-Up	Total
2500	1500	1000	5000

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3. Competition Objective

- The objective is to solve a scrambled 3×3 Rubik's Cube in the shortest possible time while complying with the rules and procedures established by the organizing committee.
- The organizing committee shall administer the competition. The Head Judge shall oversee judging, penalties, result verification, and procedural disputes.

4. Competition Structure

- The competition is open to currently enrolled all students.
- Main Event: 3×3 Rubik's Cube
- Competition Format: Preliminary Round and Final Round
- Non-refundable registration fees of 250 Tk (The Early Bird REGISTRATION FEE is 300 Tk). The final round does not require registration and is free of charge.
- **Preliminary Round:**
  Each eligible participant will receive five attempts.
  The Average of 5 (Ao5) method will determine preliminary rankings.
  The eight participants with the best valid averages will qualify for the final.
- **Final Round:**
  Each finalist will receive five attempts.
  Final rankings will be based on the Average of 5.
  The lowest valid average will earn first place;
  The next-lowest averages will determine second and third place.
- **Attempt Time Limit**:
  Each attempt has a maximum time limit of five minutes.
  If a participant has not completed the solve before the limit, the result will be recorded as DNF (Did Not Finish). The same limit applies to all participants.

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5. Eligibility

- **Academic Level:** Open exclusively to All Students.
- **Eligibility:** Each participant may register only once. Valid ID cards are required for verification on Event Day.

6. Event Specifications

- The event uses a standard 3×3 Rubik's Cube or an equivalent speedcubing puzzle approved by the organizers.
- Each participant must carry their own individual cube.
- The puzzle must be mechanically functional and must not contain electronic solving assistance or devices intended to provide an unfair advantage.
- The Head Judge may reject a damaged or unsuitable puzzle

7. During Competition:

- Participants may inspect the puzzle before starting the solve.
- Participants may inspect the puzzle before starting the solve.
- The judge will announce the time during inspection.
- Before inspection, the judge must confirm that the timer is reset and functioning.
- Participants may use both hands to solve the cube.
- Unauthorized advice, physical assistance, electronic devices, or external tools are prohibited.
- Participants must not interfere with another competitor's attempt.

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8. Disqualification

A competitor may be disqualified for:

- Cheating, falsifying results, or manipulating timing equipment.
- Intentionally disrupting another participant's attempt.
- Threatening, harassing, or abusing participants or officials.
- Repeatedly refusing to follow competition instructions.

9. Scoring and Ranking

- **Average of 5 (Ao5):**

The fastest and slowest of the five results are excluded. The arithmetic mean of the remaining three results determines the participant's average. Penalties are applied before the average is calculated.

Attempt 1	Attempt 2	Attempt 3	Attempt 4	Attempt 5
12.50 s	11.20 s	13.00 s	10.80 s	15.00 s

Example: Excluding the fastest result (10.80 s) and the slowest result (15.00 s), the average is (12.50 + 11.20 +13.00) ÷ 3 = 12.23 seconds.

- **DNF Results**

One DNF among five attempts is treated as the slowest result and excluded if the other four results are valid.
Two or more DNFs result in no valid Average of 5 for that round.
DNS is an invalid attempt and will be handled as an invalid result.

- **Tie-Breaking**

For a tie at the Preliminary qualification cutoff, the best single valid result will be compared; the faster result ranks higher.
If the tie remains, each tied participant will receive one additional tie-break attempt under the same procedure. The faster valid result ranks higher.
For a tie in the Final, the best single valid result will be compared, followed by the next-best valid results if necessary.

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10. Important dates

Registrattion start: 21 November
Registration end: 25 December
Early bird registration end: 15 December
Event Date : 28 January 2027

11. Contact Information

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N.B: The organizing committee reserves the right to modify rules to ensure fairness and proper execution of the event. In case of any ambiguity, the organizing committee's decision shall be final.

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