

ROBO SUMO 2K25

Cyborg - the robotics and automation club of NIT Rourkela is back with the much-anticipated return of the exhilarating Robo Sumo Competition! Following the resounding success of last year's event, we are thrilled to announce the highly anticipated revival of this cutting-edge technological face-off. Set to challenge the limits of innovation and engineering prowess, the Robo Sumo Competition is a battleground where autonomous robots go head-to-head in a thrilling display of strength, strategy, and technical finesse.

DESCRIPTION:

Two robots wrestle in a head-to-head bout based on the fundamental principle of conventional human sumo matches. Robots are not permitted to use weapons or to flip each other. The only goal is for the two robots to push each other out of the Sumo Ring. The arena interior is defined as the playing surface surrounded by and including the borderline. Anywhere outside this area is called the Dohyo exterior.

ARENA :



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ROUND DETAILS:

- The matches will be played in a knockout format.
- The competing teams will be split into two groups. Each team will compete in a knockout tournament against another team from the same group.
- The champions of the individual groups will fight for overall victory.
- A match shall comprise three rounds, each spanning 120 seconds unless extended by the judges.
- When a team wins a round, they earn a point. The match is won
- by the side that wins two rounds or collects two points first within the time limit.
- If neither side wins the match within the time limit, an extended match may be contested, with the team that earns the first point wins. Alternatively, the match winner/loser may be determined by judges or by rematch.
- When the judge announces the start of the round, the teams activate their robots, and the robots may begin functioning after a five-second wait time. During these five seconds, participants must vacate the ring.



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BOT SPECIFICATIONS:

- The size of the bot must be within the range of [30cm x 30cm x 25].
- No Lego parts or holding mechanisms are allowed.
- The size constraint doesn't include the remote used to control the bot.
- The bot may be wired or wireless. If it is wireless, it must be able to run on two different frequencies.
- The bot's adapter (if used) should be compatible with a 220-240V AC source, 50Hz.
- Only an AC power source will be provided for the bot. The rest of the power requirements are expected from the team.
- The minimum length of the wire must be at least 6m long.
- The potential difference between any 2 points on the bot shouldn't exceed 24V.
- Use of hydraulics, pneumatics, fire, and sticky elements of any type of chemical (even sanitizer) or liquid is not allowed.
- The wire should be slack during the gameplay.
- Participants will not be allowed to change the design once the robot is registered for the event.

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- The organizers will check the machine before the participants are allowed to compete and the decision regarding the machine's compliance with the specifications shall be solely in the hands of the judges.
- **The weight of the robot (Including the battery) must not exceed 5kgs.**

RULES:

- The robot must not damage the Sumo Ring.
- Intentional cutting of other wires and damaging of other bots is not allowed, failure to do that will lead to disqualification.
- After each round, both the teams will be granted 120 seconds to repair their robots (if any). After this time period, the robot must completely fit within the specifications mentioned above.

TEAM SPECIFICATIONS:

- A team may have anywhere between 2-4 members.
- There is no limit on the number of teams participating from an educational institution.
- Participants from different educational institutions may also form a team.



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NOTES:

- Coordinators are not responsible for any kind of technical problems.
- The number of rounds is subject to participation.
- For any queries and clarifications, contact the coordinators.
- The time limits might differ on the day of the event.
- Any kind of misbehavior with the Organizing team , would lead to direct disqualification.
- The fixtures are decided randomly and the right to change them lies entirely in the hands of the coordinators. No mutual agreement among teams to change the fixtures is allowed.



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We eagerly anticipate your involvement. We wish you all
the best!



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