

Sumo Robotics

Classes: 9-12
No of students in a team: 2
No of teams allowed per school: 1
Mode: Offline (Thursday, 9 May 2024)

- The first 16 teams to register will be allowed to participate.
- Sumo robotics is a competitive sport where teams create robots to push or flip opponents out of a ring. Two autonomous robots will have a face off, aiming to stay in the arena while forcing the others out. The winner will be determined based on the most points earned by a robot at the end of the matches.

Bot Specifications:

- A Sumo Bot must fit within a square box of 25cm X 25cm with unlimited height. Screws, nuts, and other robot parts with a total mass of less than 5 grams.
- The maximum weight should not be more than 3 Kgs (including the battery for wirelessly controlled bots. However, a tolerance of 5% is acceptable).
- Batteries must be sealed, immobilized electrolyte type (gel cell, lithium, NiCad, or dry cells).
- Batteries must be 12 volts for this challenge.
- The bot can be autonomous or manually controlled using a remote-control system.
- Each robot must carry a top marker unique identity which can be distinguished by the referee easily.
- If bots are painted, they must be painted matte.
- Bots must be constructed and programmed, so that the movement is not limited to only one direction and must move in all directions.

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- Any robotic parts/building material can be used until the bot meets the above specifications.

- Ready-made bots are not allowed to compete in the competition.

Arena:

- The ring will be circular in shape and of the appropriate diameter will be 180 cm, height 5 cm
- Straight lines consist of two painted parallel brown (or equivalent for absorption of IR Light) lines centered in the ring with appropriate width of 2 cm, a length 20 cm and a separation 20 cm. The separation distance between the lines is measured to the outside edges. White border width would be 5 cm.
- The border line is marked as a white circular ring on the outer edge of the playing surface. The ring area extends to the outside edge of this circular line.