STEM FEST

MANARAT STEM FEST 2021

LFR RULEBOOK

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General Rules

•The tournament will be managed by the Manarat Science Club, hereafter called the "Organizer." The rules have been enacted and enforced to ensure the competition's integrity and smooth flow of rounds and matches.

•All participants are required to read the competition rules and regulations. Participation in the competition signifies that the participant agrees to abide by all the rules and participate in this competition.

•Any participant who violates the rules will be subject to due consequences at the of the organizing body.

•Compliance with the code of conduct of Manarat Dhaka International School and College is required.

Eligibility and Registration

•To be eligible to participate in the competition, participants must have:

1. completed their registration in their respective category as provided .
2. participant must be a student of an institution. as well as legal residents of Bangladesh.
3. To be certified as a student by the Organizer, participants must provide their student ID.

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Bot Specifications

- Dimensions:Max 25 cm (L) x 25 cm (W) x 25 cm (H)
- Weight:Max 2 kg
- Power Supply:Onboard battery (no wired power allowed)
- Voltage Limit: ≤ 16.8V (maximum 4S Battery)
- Drive Type: Wheeled robot only
- Communication: Wireless communication strictly prohibited
- Construction: Self-built and programmed by team
- Environment: Variable lighting conditions

Arena Specifications

- The starting and finishing zones will be indicated by solld black squares, each measuring 30 cm by 30 cm.
- The total area of the track will be 8 ft by 8 ft or 8ft by 12 ft with minor adjustments possible depending on the available venue space
- The arena surface will feature a black line on a white background or a white line on a black background.
- The line width will be 3 cm (30 mm).
- The acute angles will be no less than 30 degrees.

The track may include the following features:

- The main competition track design will remain undisclosed until the event day but a demo track, which will be shared in advance on the event page
- Curved lines and round corners.
- Sharp angles, including 30, 45″, 60″, and 90° turns.
- Complex patterns, such as sine waves, square waves, curves, crossovers, inverse, dotted lines and irregular segments.
- There will be no caves, or physical obstacles on the track Therefore, SONAR or Ultrasound sensors are not required.

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Scoring System

- Leaving Start Point (S): +20
- Stopping at End Point (E): +20
- Each Checkpoint Crossed (C): +150
- Each Restart (R): -70
- Bonus --> Completed Without Restart (B): +150
- Time Efficiency (Total Time Elapsed(1);
- (Time) x 1
- Total Score = S+E+C+R+B

Disqualification Criteria

- Failure to meet size/weight/voltage limits
- Wireless/manual intervention during the run
- Robot fails to move for 30+ seconds
- Damaging the arena or other robots
- Disrespectful conduct towards judges or volunteers
- Use of unsafe or prohibited components

Inspection & Compliance

- All bots undergo inspection 30 minutes before matches.
- Size, weight, and voltage compliance required.
- Battery safety and mechanical structure checked.

Code of Conduct

- Teams must report within 2 minutes of call.
- Late arrivals forfeit matches.
- Any act of misconduct or false identity leads to disqualification.
- The decision of the judges is final and binding.
- Authority can change rules without prior notice.