HAVANA'25
THE JOY OF TECH SPIRIT

GITAM
DEEMED TO BE UNIVERSITY

LINE FOLLWER

Description of event:

"Experience the excitement of the 'Havana25' was a techfest ,where autonomous robots showcase speed, precision, and innovation on a complex course. Teams race against the clock, earning points for speed, path accuracy, and obstacle handling. Judges evaluate sensor use, smoothness of motion, and robustness in varied environments. Creativity shines in the Innovation category, and bonus challenges add an extra thrill. The event highlights energy efficiency and clear documentation. Join us for a display of cutting-edge technology and strategic prowess in the 'Havana24'!"

Objective:

- Teams must build an autonomous robot capable of following a white line and navigating through a maze.

Registration:

- Registration Fee: Rs 350/-
- Prize Money:Rs XXX9/-
- **Team size:** 1 - 3 members in a team (maximum 4 allowed).

Bot Specifications:

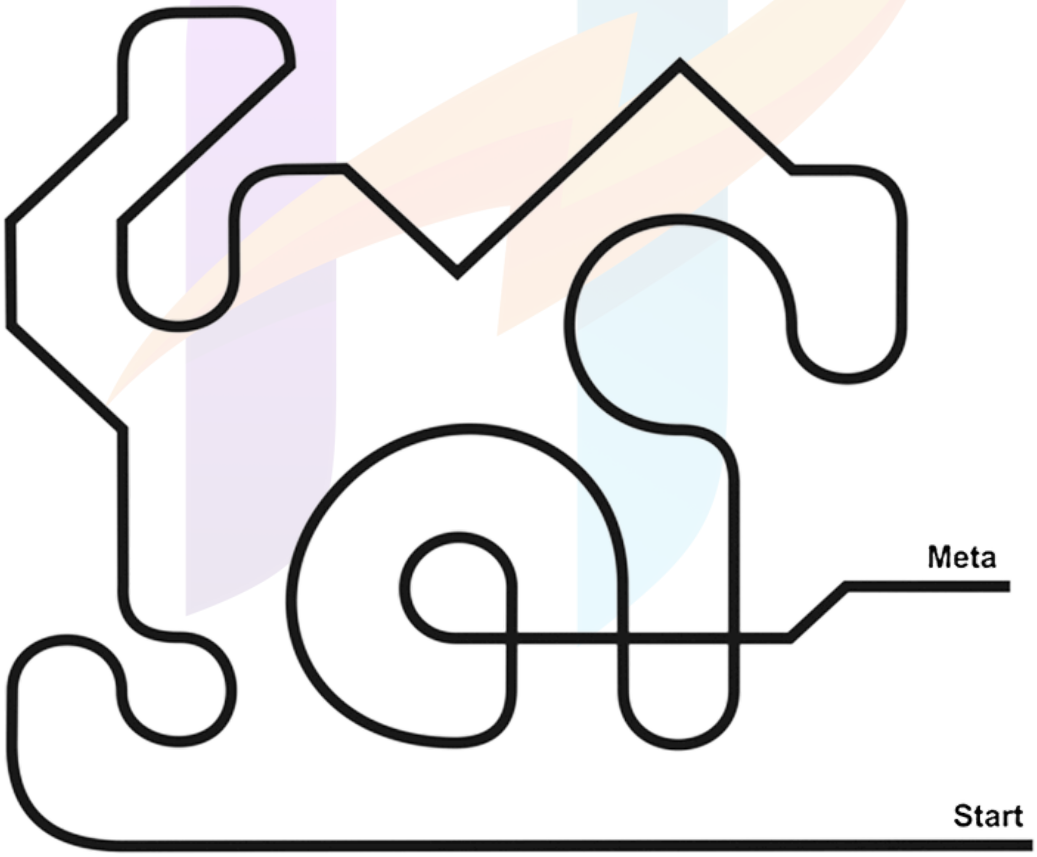
- The autonomous bot must fit within dimensions of 220 x 220 x 220 mm (l x b x h).
- The bot must have a red LED that glows upon reaching the end zone.
- It should not damage the arena in any way.
- Bot must have an 'on board' power supply
- The potential difference between any two points must not exceed 24 V during the game.
- The bot should not separate or split into two or more units.
- The machine cannot be constructed using ready-made 'Lego kits' or mechanisms. Violating this rule leads to disqualification.

Gameplay:

- The bot starts from the 'Start' and follows the path stored in the first run to reach the 'End.'
- The timer starts from zero.
- 6 minutes for the run.
- Time shall be measured by an electronic gate system.
- once the robot crosses the starting line, it shall be completely autonomous, or else it will be disqualified.
- A robot that loses the line must resume from where it was lost or an earlier point; failing to do so results in losing an attempt.
- The line-following course consists of a small 180 cm wide and 275 cm long black paper rectangle, with a 1.5-2.5 cm wide white line.

Arena:

- The competition field is a 210 cm x 210 cm arena with random paths made of white vinyl strips.
- The angle between two adjacent white lines is 90°.
- The width of all white stripes is 30mm.
- A white box of 300 mm x 300 mm indicates the end position.
- The actual arena at the competition may have alterations in the path.



REFERENCE ARENA

Game Rules:

- Teams have 2 minutes for calibration; altering the code after depositing the bots leads to disqualification.
- Only one autonomous bot per team is allowed.
- No team member can touch the bot or enter the arena after the start.
- The run starts when organizers give the signal.
- A total of 6 minutes are allowed to finish the run.

Restarts:

- Teams are allowed a maximum of 3 restarts.
- In the dry run, the bot starts from a checkpoint upon restart.
- In the actual run, the bot starts from the beginning without resetting the timer.

General Rules:

- Only one team member is allowed to handle the bot.
- Nothing other than the bot is allowed inside the arena.
- Laptops/personal computers are not allowed near the arena, and electronic devices must be switched off.
- The organizers' decision is final in case of disputes.
- Organizers reserve the right to change rules if necessary and will notify registered teams.

Team Specification:

- A team can consist of a maximum of 3 participants.

Evaluation Criteria:

1. Speed and Completion Time (30 points):

- Points awarded based on the speed of the robot. Faster completion times receive more points, with a maximum of 30 points for the fastest time.

2. Path Accuracy (20 points):

- Points deducted for deviation from the center of the line. Minimal deviation results in full points, while significant deviations lead to deductions.

3. Smoothness of Motion (15 points):

- Points awarded for smooth and continuous motion. Jerky movements result in deductions.

4. Sensor Utilization (15 points):

- Points awarded for effective use of sensors in following the line. Robots that fail to use sensors or rely on them poorly receive deductions.

5.Innovation and Design (20 points):

- Points awarded for creative and innovative design elements. Unique solutions to common problems and inventive features contribute to higher scores.

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INQUIRIES

For General and Technical inquiries related to the **HAVANA '25**

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