MAHARISHI UNIVERSITY

ISO 21001 ISO 29993 ISO 9001 ISO 14001

Maharishi botFiesta 2025

11th–12th November 2025

ARE YOU READY?

Registration Details Coming Soon...

Events

1. Robo War
2. Robo Race
3. Robo Soccer
4. Robo Talk
5. Tug of War
6. Drone Racing
7. Line Follower

Registration Starts
29/09/2025

Eligibility

Senior Level : Diploma, UG & PG
Junior Level : Upto 12th Class

*Certificate to all participants

Training Partner
Infofaith india pvt ltd

Venue : Maharishi University of Information Technology
Sitapur Road, P.O-Maharishi Vidya Mandir, Lucknow-226013 (UP)

Organized by: Maharishi School of Engineering & Technology in Association with IQAC, MUIT Lucknow Campus
Contact : +91-99587 81826, +91-95990 71023 | E-mail : help@muitonline.com | Website: robotics.muitonline.com

Managing Partner
Monteage IT Solutions Private Limited

Maharishi botFiesta 2025 Rules Book

REGISTRATION FEES

Events Name	Senior Level	Junior Level
Robo War Challenge	₹1,100	₹500
Robo Race Competition	₹1,100	₹500
Robo Soccer Competition	₹1,100	₹500
Robo Talk	₹300	₹200
Tug Of War	₹1,100	₹500
Drone Racing	₹1,100	NA
Line Follower	₹500	₹500

PRIZE MONEY

Events Name	Senior Winner	Senior Runner-up	Junior Winner	Junior Runner-up
Robo War Challenge	₹9,999 & Certificate and Trophy	Certificate and Trophy	₹51,00 & Certificate and Trophy	Certificate and Trophy
Robo Race Competition	₹9,999 & Certificate and Trophy	Certificate and Trophy	₹5,100 & Certificate and Trophy	Certificate and Trophy
Robo Soccer Competition	₹9,999 & Certificate and Trophy	Certificate and Trophy	₹5,100 & Certificate and Trophy	Certificate and Trophy
Robo Talk	₹2,100 & Certificate and Trophy	Certificate and Trophy	₹1,100 & Certificate and Trophy	Certificate and Trophy
Tug of War	₹9,999 & Certificate and Trophy	Certificate and Trophy	₹5,100 & Certificate and Trophy	Certificate and Trophy
Drone Racing	₹9,999 & Certificate and Trophy	Certificate and Trophy	NA	NA
Line Followers	₹5,100 & Certificate and Trophy	Certificate and Trophy	₹3,100 & Certificate and Trophy	Certificate and Trophy

ARENA AND BOT CRITERIA

Events Name	Arena Dimension	Bot Dimension	Team Member	Remark
Robo War Challenge	12ft x 8ft x 1ft (l x b x h)*.	Weight- 15Kg Battery- 24volt (max)	Max-4	Wireless (for Senior) Wired and wireless (for Junior)
Robo Race competition	Minimum 90ft	30cm X 25cm X 15cm (l x b x h) Weight- 3Kg Battery- 12volt	Max-3	Wireless (for Senior) Wired and wireless (for Junior)
Robo Soccer competition	30ft x 20ft	Dimension-30cm X 25cm X 15cm (l x b x h) Weight- 5Kg Battery- 24 volt (max) Ball size: diameter as 6.54–6.86 cm	Max-3 with 1 bot	Wireless (for Senior) Wired and wireless (for Junior)
Robo Talk*			Max-2	Topic based on Emerging Trends in Robotics
Tug of War	20ft x 8ft	Dimension-30cm X 25cm X 15cm (l x b x h) Weight- 5Kg Battery- 24 volt (max)	Max-3 with 1 bot	Wireless (for Senior) Wired and wireless (for Junior)
Line Follower	7ft x 7ft	Dimension-20cm X 20cm	Max-2 with 1 bot	Autonomous for all
Drone Race	90ft-100ft	Less than 28 inch (Diagonal)	Max-3 with 1 bot	Wireless for all

General Rules for Maharishi botFiesta 2025

1. Registration:

- All teams must complete on-desk registration before the start of their respective events.
- Late registrations or unregistered participants will not be allowed to compete.

2. Originality of Work:

- All bots, drones, and projects must be originally designed and developed by participants. Use of readymade kits or pre-programmed devices is strictly prohibited unless specified in individual event rules.

3. Safety Compliance:

- Participants must ensure safe operation of all machines. Unsafe handling of robots, drones, or electrical equipment will result in immediate disqualification.

4. Code of Conduct & Judging:

- Participants must maintain discipline, teamwork, and sportsmanship throughout the event.
- Judges' and organizers' decisions will be final and binding in all matters related to performance, scoring, and disqualification.

ROBO WAR CHALLENGE

Objective-Design and construct a remote-controlled robot capable of fighting a tournament against another robot(s).

Design Specifications

Specifications:

- There will be no restrictions on the dimensions of the bot(s).
- The weight of the machine should not exceed 15 Kgs (33.07 Lbs.), which includes the weight of any pneumatic source/tank. All pneumatic tanks/source and batteries should be on board. Only the weight of the remote controller will not be counted.
- A bot can be in a “Cluster Bot” formation. Each bot must meet the requirements described in this problem statement. The total weight of all the bots and the dimensions of the combination of bots must satisfy the above two points.
- Robots with pneumatic or hydraulic mechanisms or electric lifters are allowed.
- Active Weapon bots are not allowed
- Manually operated jumping and hopping are allowed. However, the maximum height of any part of the machine should not exceed 6ft during any stage of its jumping/hopping and any damage caused due to this mechanism is solely the responsibility of the team.

Battery and Power:

- The machine must be powered electrically. Use of an IC engine in any form is not allowed. On board batteries must be sealed, immobilized-electrolyte types (such as gel cells, lithium, NiCad, NiMH, or dry cells).
- The electric voltage between any 2 points on the machine should not exceed 24V DC at any point in time. Participants will have to bring their own converters for standard power supply Participants must protect the battery terminals from a direct short and causing a battery fire, failure to do so will cause direct disqualification.
- Use of damaged, non-leak proof batteries may lead to disqualification.
- Special care should be taken to protect the on board batteries. If the judges find that the battery is insufficiently protected, the team will be disqualified immediately.
- Change of battery will not be allowed during the match.
- Only bots with on-board batteries will be allowed.

Weapon Systems:

No Active weapon are allowed

Match Duration:

Matches will consist of 3 minutes of active fight time exclusive of any time-outs. Hence, it is not binding but advisable to keep battery capacity, power usage and machine defences such that they can sustain a 3- minute fight.

Arena Specification

The out-to-out dimension of the arena will be 12ft x 8ft x 1ft (l x b x h)*. As well as arena will be function able.*these figures/parameters are subject to change.

ROBO RACE COMPETITION

Objective:
Design a wireless Bot within the specified dimensions that can operated manually and can travel through all turns of the track. The robot that will complete the specified task in least time will be the winner. Think your robot can overcome any obstacle-big or small in the least of time.

Bot Dimensions:
The dimensions of the bot should not exceed 30 cm in length, 25 cm in width, and 15 cm in height, including all attachments and extensions.

Wireless Operation:
The bot must be entirely wireless and should not have any wired connections to external devices or power sources during the competition. (for Junior section both wired/wireless are allowed)

Battery Voltage:
The bot's power source should not exceed 12 volts. All batteries used must be within this voltage range.

Weight Limit:
The total weight of the robotic competition bot, including all components, attachments, and batteries, should not exceed 3 kilograms.

Competition Arena:
The competition will take place within a designated arena with defined boundaries and obstacles. The bot should be designed to navigate and complete tasks within this arena.

Technical Failures:
In the event of technical failures or malfunctions during the competition, teams may be allowed a limited number of restarts or repairs, depending on the competition rules.

ROBO SOCCER COMPETITION

Objective:
The objective of this competition is to design and build a robot capable of playing football game within a limited time frame. Teams typically consist of certain 1 robot players per team.

Field Dimensions:
The field dimensions are usually standardized and may vary depending on the league within management. A standard size for the field is often used, with markings for goals, penalty areas, and the centre circle.

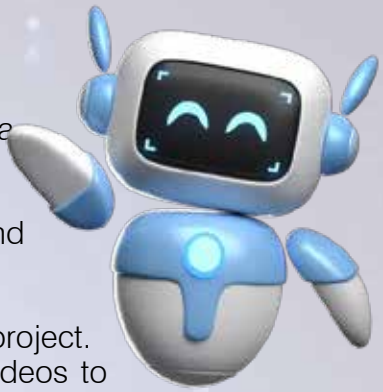
Game Duration:
Matches are usually played in two halves, with each half lasting a specified amount of time, typically between 5 and 10 minutes.

Game Start:
- Matches begin with a kick-off from the centre circle.
- Robots must be placed in their own half before kick-off.

Scoring: Goals are scored when the entire ball crosses the goal line.
Off sides: Offside rules may or may not be enforced, depending on the competition rules.

Winning Criteria:
- The team that scores the most goals within the allotted time wins the match.
- In the case of a tie, some competitions may have overtime or penalty shootouts to determine the winner.

ROBO TALK



Objective:

- State the specific objectives and goals of your project.
- Highlight what you aim to achieve through your robotics solution.
- Explain how you approached the development phase, including materials, components, and technology used.
- Presentation should be maximum 5- minutes
- Detail how you implemented your design, including software and hardware components.
- Discuss any innovative or unique aspects of your implementation.
- Highlight any innovative technologies or approaches used in your project.
- If possible, include live robot demonstrations or pre-recorded videos to showcase your project's functionality.
- Use visuals like slides, diagrams, and images to enhance understanding.
- Encourage audience interaction through questions and answers.
- Allocate time for a Q&A session after your presentation
- Be prepared to provide detailed responses to questions from the audience and judges

***Emerging Trends in Robotics**

- AI-Powered Humanoid Robots: The Next Step in Human–Robot Interaction
- Collaborative Robots (Cobots) in Industry 5.0
- Edge AI for Autonomous Robots
- Bio-Inspired Robotics: Mimicking Nature for Smarter Machines
- Soft Robotics for Healthcare and Rehabilitation
- Quantum Computing in Robotic Control Systems
- Cloud Robotics and Distributed Intelligence
- Generative AI for Robotic Design and Motion Planning
- Swarm Robotics for Search and Rescue Operations
- Energy-Efficient Robots for Sustainable Development

TUG OF WAR COMPETITION

Objective:
Design and build a manually controlled Bot within the specified dimensions that can participate in a Tug of War match. The Bot should be capable of pulling against the opponent's Bot with maximum traction, power, and stability. The Bot that successfully pulls the opposing Bot beyond the center line (or within the given time limit) will be declared the winner.

Bot Dimensions:
- The dimensions of the bot should not exceed 30 cm in length, 25 cm in width, and 15 cm in height, including all attachments and extensions.

Wireless Operation:
- The bot must be entirely wireless and should not have any wired connections to external devices or power sources during the competition.
- (For Junior Section: Both wired and wireless operation will be allowed).

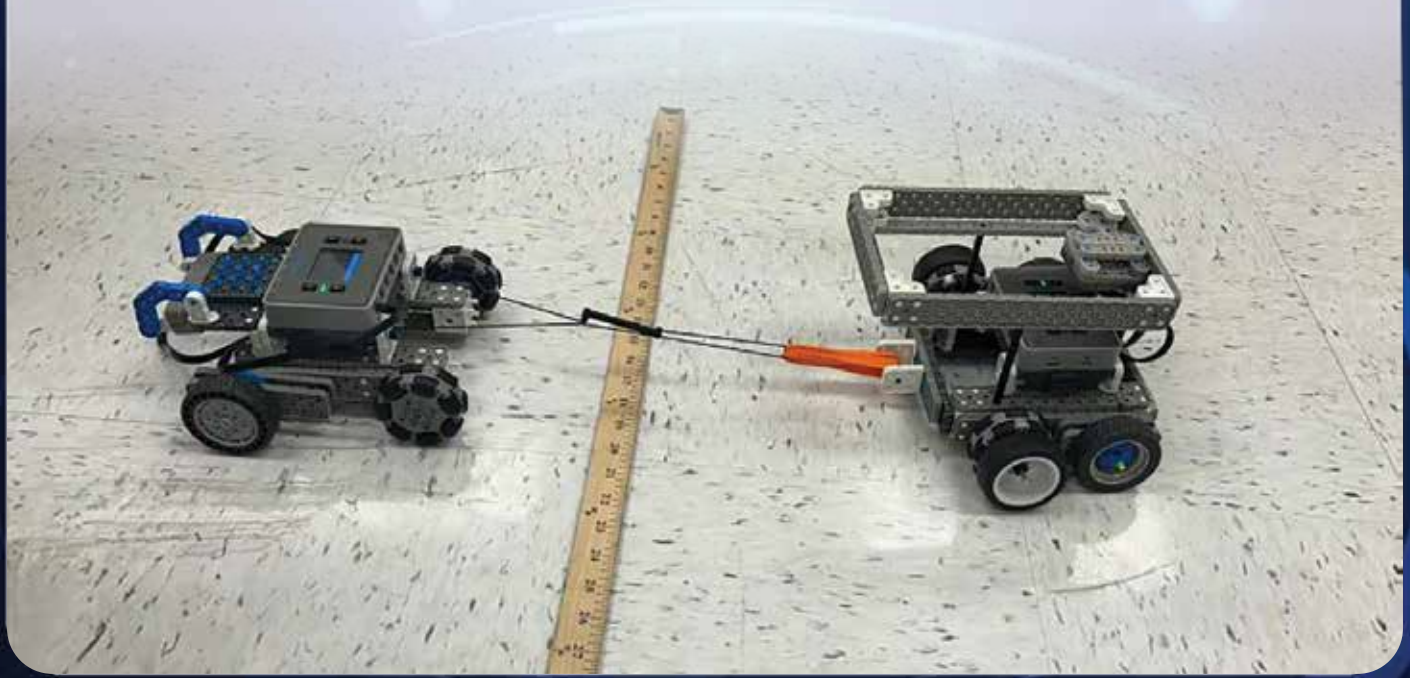
Battery Voltage:
- The bot's power source should not exceed 24 volts (max).
- All batteries used must be safely enclosed and secured to prevent hazards during the match.

Weight Limit:
- The total weight of the robotic competition bot, including all components, attachments, and batteries, should not exceed 5 kilograms.

Competition Arena:
- The Tug of War will take place on a flat arena with a central line marked as the boundary.
- Two bots will be tied with a rope from the rear end, and the objective will be to pull the opponent bot across the centre line.

Technical Failures:
- In the event of technical failures or malfunctions during the competition, teams may be allowed a limited number of restarts or repairs, depending on the competition rules.

Judges' Decision:
- All decisions made by the judges regarding bot performance, fouls, and rule compliance will be final and binding.



LINE FOLLOWER ROBOT (LFR) COMPETITION

Objective:
Design and build an autonomous Line Follower Robot within the specified dimensions that can detect and follow a black line on a given track. The robot must complete the track in the shortest possible time without deviating from the line. The bot that successfully follows the track and reaches the finish line in the least time will be declared the winner.

Bot Specifications

Dimensions:
- The bot's dimensions must not exceed 25 cm in length and 25 cm in width, including all sensors and attachments.

Power Supply:
- The robot's power source must not exceed 12 volts (maximum).
- All batteries must be securely fixed inside the bot to prevent any hazards.

Autonomous Operation:
- The bot must operate fully autonomously and must not receive any external commands during the run.
- No wired or wireless manual control is permitted once the bot is placed on the track.

Weight Limit:
- The total weight of the bot, including all components and batteries, must not exceed 3 kilograms.

Competition Arena:
- The track will consist of contrasting coloured lines (e.g., a black line on a white surface).
- The track may include curves, sharp turns, junctions, and dead ends to test sensor accuracy and algorithm efficiency.
- The surface will be flat and non-slippery.
- The line thickness will be approximately 25 mm.

Judgment / Scoring Criteria:

1. Time of Completion
- The bot that completes the entire track in the shortest time will be declared the winner.

2. Accuracy in Following the Line
- Points may be deducted if the bot deviates from the line.
- If the bot leaves the line, it must return within 5 seconds to continue; otherwise, it will be considered a failed attempt.

3. Number of Restarts
- Each team is allowed a maximum of two restarts.
- Time will be recorded from the latest restart.

4. Completion of Track
- Bots completing the full track will be ranked higher than those completing only a partial distance.
- If no bot completes the entire track, the bot that covers the longest valid distance will be declared the winner.

5. Technical Failures
- If a bot stops due to technical issues, teams will be allowed limited repair time as per event rules.

DRONE RACING COMPETITION

Objective:
Design and operate a drone within the specified dimensions that can fly through a racing track consisting of hurdles and checkpoints of various shapes (circular, triangular, and rectangular). The drone that successfully completes the track in the shortest time with maximum accuracy will be declared the winner.
Drone Specifications-

Dimensions:
- The diagonal size (from end-to-end propeller tips) of the drone must not exceed 28 inches.
- All attachments, propeller guards, and extensions must fit within this limit.
- Readymade kits are not allowed in the competition; drones must be designed and built by participants.

Power Source:
- The drone must be powered by an on-board Li-Po or equivalent battery.
- The battery voltage should not exceed 6S (22.2V nominal) for safety, unless otherwise approved by the organizers.

Operation:
- The drone must be remotely controlled (wireless RC operation).
- The use of GPS, FPV (First-Person View), or on-board cameras is permitted, depending on category rules.
- Wired or tethered drones are not allowed.

Weight Limit:
- The total weight of the drone, including frame, motors, battery, and camera, must not exceed 2.5 kilograms.

Competition Arena:
- The racing arena will include multiple hurdles and checkpoints, such as:
  - Circular hoops – Drones must pass through completely.
  - Triangular frames – For precision manoeuvring.
  - Rectangular gates – For high-speed entry and exit.
- The course will include straight sections, turns, altitude changes, and obstacle gaps.
- Track boundaries will be clearly marked; flying outside the boundaries may result in time penalties or disqualification.

Judgment / Scoring Criteria:

1. Time of Completion
- The drone completing the entire course in the shortest time will be ranked highest.

2. Accuracy in Crossing Hurdles
- Each correctly crossed hurdle (circle, triangle, rectangle) earns full points.
- Skipping or missing a hurdle will add time penalties (e.g., +10 seconds per miss).

3. Collisions & Crashes
- Minor collisions that do not affect flight stability may incur penalties.
- A crash that disables the drone will result in disqualification for that round.

4. Number of Restarts
- Each team is allowed one restart if the drone fails early in the race (subject to organizers' discretion).

5. Completion of Track
- Drones completing the full track will be ranked higher than those covering only part of it.
- If no drone completes the entire track, the drone covering the maximum number of checkpoints in minimum time will be declared the winner.

6. Safety Compliance
- Unsafe flying, entering audience zones, or loss of control will lead to immediate disqualification.

Maharishi botFiesta 2024

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