WHERE METAL MEETS MIND, INNOVATION IS FORGED

FROM BLUEPRINTS TO BREAKTHROUGHS—WELCOME TO THE FUTURE OF ROBOTICS

ROBOFIESTA

A NATIONAL LEVEL TECHNICAL SYMPOSIUM 2K25

TECHNICAL EVENTS

ROBO RACE
ROBO SOCCER
LINE FOLLOWER
PAPER PRESENTATION
3D MODELLING
CIRCUIT DEBUGGING

LUNCH AND REFRESHMENTS
WILL BE PROVIDED

WIN EXCITING
CASH PRIZE

NON TECHNICAL EVENTS

QUIZ
SQUID GAME
BGMI
POSTER DESIGNING

SCAN TO REGISTER

12 MARCH 2K25

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ROBO RACE
RULES

Maximum 4 Members Per Team(team event)

ROBOT SPECIFICATIONS:

1) The Maximum Dimension Of The Robot Can Be 30 Cm X 30cm X15 Cm (L X B X H).

2) The Robot May Be Wired Or Wireless.

3) The Length Of The Wire (For Wired Bots) Should Be Long Enough To Cover The Whole Track And Wire Should Remain Slack During The Complete Run.

4) Maximum Weight Must Not Exceed 3 Kg.

5) The Participants Will Be Provided With 220 Volts, 50hz Standard Ac Supply. Participants Will Have To Themselves Arrange For Adaptor Or Batteries.

6) The Machine Must Not Be Made From Lego Parts, Or Any Ready -Made Kit, If We Find Such Machine It Will Be Disqualified.

BATTERIES & POWER:

1. The Machine Must Be Powered Electrically Only. Use Of Ic Engine Is Not Allowed.

2. Batteries Must Be Sealed, Immobilized Electrolyte Type (Gel Cell, Lithium, Nicad, Or Dry Cells).

3. The Electric Voltage Anywhere In The Machine Should Not Be More Then 12v Dc At Any Point Of Time.

GAME RULE:

1) The Competition Is Based On Time Trail System. There Will A Qualifying Round For Each Team.

2) The Top Team From Qualifying Round Makes It To The Final Round On Basis Of Time Trials.

3) Wires Should Remain Slack During The Course Of The Run. Pulling The Wire To Aid The Robot In Traversing May Lead To Disqualification.

4) If Any Of The Robots Starts Off Before Start Up Call, The Counter Would Be Restarted And The Machines Will Get A Second Chance. If Repeated Again Then Team Will Be Disqualified.

5) Your Robot Must Be Ready When Call Is Made For Your Team.

6) Team Members Will Be Allowed Only Three Times To Touch Or Reset Their Robots Position During The Run. However, This Will Lead To A Time Penalty And Timer Will Not Stop During This Course Of Action.

7) The Robot Will Be Judged On Basis Of (In Priority):-

    A. Time To Complete The Track.

    B. Number Of Checkpoints Cleared.

8) Machine Must Not Contain Any Readymade Kits, Pneumatic &Hydraulic Systems, Ic Engines.

9) Decision About Your Robot Will Be Taken By The Organizers.

10) No Team Will Get A Second Chance After Completing The Track With Poor Score

ROBO SOCCER
RULES

TEAM EVENT:

- Maximum 4 Members Per Team

BOT SPECIFICATIONS:

- Bots Can Be Wireless (Bluetooth Controlled Or Rc, Etc.) Or Wired.
- Bot Weight: 5kg Tolerance 3%
- Ground Clearance: 2mm
- Length Of The Bot: 30cm (Inclusive Of Clamps)
- Width Of The Bot: 30cm
- Height Of The Bot: 30cm
- Operating Voltage: 12v
- Clamp Should Be Stationary, Without Any Moving Parts, And Can Be Of Any Shape Rules And Regulations:
- Each Team Will Have One Bot And Can Comprise A Maximum Of 4 Members.
- For Students Making Wired Bots, They Must Bring Their Own Extension Wire Or Boards.
- Students Making Wireless Bots Should Bring Their Own Batteries, Etc.
- No Weapons Allowed (Like External Gears, Cutters, Etc.).
- No Carrying Or Lifting The Ball Using Arms Or Any Other Means.
- No Shielding Or Covering The Ball In Any Way.
- No Purposeful Ramming. Yellow Card For Ramming Once Or Twice;
- Disqualification For Ramming The Third Time. Play Fair.
- The Competition Shall Be Held In Knockout Or Double Elimination, Which Will Be Decided At The Venue.
- Each Round Will Consist Of 2 Halves, Each Of 3 Minutes. The Team Scoring The Greatest Number Of Goals Will Be Declared The Winner.
- In Case Of A Tie, There Will Be An Extended Match With A Time Limit Of 2 Minutes Add-On.
- The Team That Scores First Wins.
- If There Is Still A Draw, Coordinators Will Place Each Team's Bot And Ball In Different Locations On The Arena. Teams Must Figure Out A Way To Score A Goal.
- The Bot Can Only Touch The Ball Once.
- Bot Should Not Damages The Arena.

LINE FOLLWER
RULES

TEAM EVENT:
- Minimum of 2 and maximum of 4 members.

BOT SPECIFICATIONS:
- All participating bots must be wireless outside the main body.
- The bot must fit inside a 30cm x 30cm x 30cm box.
- Maximum weight of the bot should not exceed 3kgs (including batteries).
- Batteries must be sealed, immobilized electrolyte type [gel cell, lithium ion, Ni-Cad, or dry cells). The electric voltage anywhere in the machine should not be more than 12V DC at any point in time for each robot.
- Optical sensors can be used for detecting the line only if they do not affect other bots. Minor parts that reflect infrared light could be used only if other robots are not affected.
- The bots must not cause any kind of damage to the arena. Any such incident may lead to disqualification, with decisions taken by event coordinators or judges being final.
- The bots must not hinder the performance of any other bot. In such cases, the decision of event coordinators or judges will be final.
- The robot can only be autonomous [hence Wireless).
- Any robotic parts/building materials can be used as long as the robot meets the above specifications.
- The design and construction should primarily be the original work of the team. Ready-made robotic kits are not allowed to compete in the competition unless the assembling and working principle of the robot is known and understood by the team.
- Any ambiguities in the design and construction of the robot must be clarified with the event managers before the event.
- All robots will be checked for conformity with rules, before their run and maybe disqualified if they do not. The decision of referees or event coordinators is FINAL.

CIRCUIT DEBUGGING

RULES

CIRCUIT DEBUGGING EVENT RULES

Event Structure :
- The team consists of maximum two members.
- The event consists of 2 rounds.
- Round 1: Software Round (Tinker CAD) - 30 minutes
- Round 2: Hardware Round -60 minutes

Round Details :
- Software Round (Tinker CAD): Teams must bring their own laptops.
- Hardware Round: Components will be provided, but be prepared for a twist!

Twists and Challenges :
- Mystery Component: A new component will be introduced during Round 2, and teams must incorporate it into their circuit.
- Time Bonus: Complete the hardware round within 45 minutes and receive a time bonus, which will be added to your marks.

General Rules :
- Involvement in malpractice will be considered seriously and will result in disqualification.
- Registered teams are considered final, and no changes will be allowed on the spot.

3D MODELLING
RULES

Event Overview :

- Participants are required to design 3D models based on 2D sketches, with evaluation focusing on both time and the quality of the designs. Various software tools like PTC Creo, AutoCAD, Fusion 36, SolidWorks, and CATIA can be used, but only Fusion 360 will be provided; others must be brought on the participant's laptop.

Round 1 - 2D Sketching :

- Participants will work on creating 2D sketches, potentially using software like AutoCAD or Fusion 360.

Round 2 - 2D to 3D Conversion :

- Participants will receive 2D sketches and will need to convert them into 3D designs using any software of their choice (Fusion 360 is provided for all participants, others are on the participants' laptops).

Round 3 - Real-Life Component Replication :

- Participants will receive real-life components and must replicate these components in 3D design.

Evaluation Criteria :

- Time : The quicker the designs are completed without sacrificing quality.
- Quality : How well the 3D models match the provided 2D sketches or real-life components, considering precision, details, and overall design quality.

Participants must adhere to and respect the jury's decision, which shall be final and binding.

PAPER PRESENTATION
RULES

TOPICS:

- AI-Powered Autonomous Robots.
- Swarm Robotics for Disaster Management.
- AI-Powered Prosthetics and Exoskeletons.
- Internet of Robotic Things (IoRT).
- Future of Robotic surgery.
- Robotic Process Automation in Smart Factories.
- 3D Printing in Robotics.
- Biomimicry in robotics.
- LiDAR vs. Camera-Based Perception in Self-Driving Cars – Which technology is the future?
- Hydrogen vs. Battery Electric Vehicles – Which is the future of clean transportation?
- Path Planning Algorithms for TurtleBot in Dynamic Environments

RULES:

- Maximum 3 members per team.
- Individual participants are also allowed.
- Abstract have to be related to the above given topics and any kind of plagiarism will lead to disqualified the entire team.
- Plagiarism percentage must be on or under 20%.
- Abstract should be submitted only after registration.
- Note: If abstract isn't selected then money you paid will be refunded.
- Last date of submitting abstract is on or before data should be added.
- Abstract should be sent to mail (robofiesta2k25@gmail.com).
- Selected abstracts will be notified through the mail or message.
- Late date for abstract submission 7/3/25

Poster
Designing

RULES

The **theme** for poster designing will be **given on spot**.

Participants are requested to bring their own **Laptops/mobiles** or any other **comfortable devices**.

The participants are said to complete the poster designing by the given **time - 2hrs**.

The judgement will be based on:
- The poster must be attractive.
- Must suit the given theme.
- Creative Typography.
- Fitting the content.

Participants must submit their work in **JPG/JPEG format**. The ratio will be **595.28 x 841.89 pixels (A4 size)**.

To submit the work, the participants will be given a **qr to scan**, leading to a **google drive**. The participants can upload their work in given format document.

QUIZ
RULES

General Rules:

1. Each team must consist of two participants.

2. Participants must remain present throughout the event.

3. The use of mobile phones is strictly prohibited.

4. Discussion between teams is not allowed.

5. Participants must follow all instructions given by the event volunteers.

6. The decision of the event coordinator is final and binding.

7. The majority of the questions will be based on general topics.

Rounds:

Round 1:
 Pen and Paper Round

Round 2:
The details of this round will be revealed on the spot.

Round 3:
The details of this round will be disclosed during the event.

Participants are expected to maintain discipline and fairness throughout the competition.

Any violation of the rules may result in disqualification.

SQUID GAME

RULES

This game contains a total of 5 games.

There will be only 1 winner

All participants will be provided with respective participation number for them.

For each round, the number of participants will be reduced according to their perfomance.

The games will be announced on spot.

Spot registration accepted.

The disqualiers will be eliminated immediately by the masked gaurds.