

CORSIT

ROBOCOR-23

17 JUNE, 2023



RULE BOOK

GENERAL RULES

- ❖ Certificate of excellence will be awarded to top teams. Certificates of participation will be provided to all.
- ❖ All participants should have a valid identity card of their respective colleges.
- ❖ The organizers reserve the right to change the rules as they deem to fit.
- ❖ Judge's decisions are final and binding on all the participants.
- ❖ Violating any of the rules will lead to disqualification of the whole team.

For any queries contact-

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PAPER PRESENTATION

It's time to show who's the boss when it comes to the command over the subject. The staple diet of all technical events is undoubtedly the presentation event, yet it has something in it which makes it exciting. If you have an idea which has been taking shelter in your mind that would change lifestyles visibly, make inroads into the development of geeky technology or even make some known technology effective and efficient. We offer you the stage to show who you are to the world.

Rules:

- Register in team of two.
- Participants have to submit their abstract for scrutiny on or before **13th June 2023 (11:59 PM)**.
- The paper should be in IEEE format not exceeding 6 pages.
Refer <http://surl.li/hucrg>
- The document format has to be in Microsoft Word (.doc or .docx) or Printable Document Format (.pdf) only.
- Soft copy of the abstract should be mailed to corsit@sit.ac.in with the domain name as the subject.
- Name of the participants, college name, email address and contact numbers should be mentioned in the mail.
- Shortlisted participants will be intimated through email.
- Three hard copies and one soft copy of the paper should be brought on the day of presentation.
- Presentation time + Queries time = 8min + 2min = 10min
- Follow formal dress code.

NOTE: The rules may be slightly modified during the competition. The organizers reserve the right for the same. Violation of any of the rule can result in rejection of paper.

Registration Fee: Rs. 200/- per Team

Coordinator Details:

Aman Gupta

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Tannistha

Mobile Number: 9521059457

TRAIL BLAZER

Fumble and it's all over!! Trace it and track the prize!!! This event is for the code masters. Here's your chance to prove your robot's worth. A series of simple yet complex path are to be traced by the autonomous robot. Build the right circuit and test the precision of your programming. And as the saying goes, "You don't fall out of track and you shall emerge victorious", stay on line and pave the path to success!!!

Problem Statement

An autonomous intelligent robot has to be made, which can traverse a path that runs through junctions, breaks, unusual curves and pointed angles. The machine should follow the path without deviating from it.

Dimensional Specifications

The robot should fit in a cube of 30 cm cube side and weight is at choice.

Control Specifications

The robot should be autonomous.

Power Specifications

The robot should have on-board power supply and voltage between any two points on the robot should not exceed 12V.

Note: A tolerance of 5% is allowed in the above mentioned dimensional and power specifications, taking into consideration the error of the measuring instruments that we use here and those used by the participants in the making of the robot.

Arena Description

- Surface of the racing track will use base material suitable for racing such as a flex banner. The surface of the racetrack shall normally be level; however, portions of the track may be inclined at a maximum of 10 degrees.
- Surface of the racing track is white, with continuous black line (35 mm wide) drawn in the middle as the pilot line
- The racing track can intersect with a crossing angle of around 90°.

The Event

The event will be conducted in two rounds each of increasing complexity, among which the first will be the qualifying round.

Qualifying Round

In this round the basic line following mechanism is tested. The robot should reach the end point without deviating from the line. It is mandatory to clear the qualifying round to progress for the further rounds. A maximum of two trials (changes can be made by coordinators at the time of event) are given to each team.

Final Round

The robot should begin from the start point and reach the end point. Similar to the qualifying round the path consists of junctions, curves, misleading paths. The entire path from start to end should be traversed by the robot to progress into the final round. If the bot stops automatically at the finishing line of track, a bonus of -15 second will be added to the final time. Arena for the final round will not be revealed until the day of the event. This round may have very sharp curves, loops, misleading junction's discontinuities etc. Similar to the qualifying round the course line is black and made on white coloured flex sheet.

Rules:

- A maximum of 4 participants are allowed in a team.
- The Robot should be completely autonomous. It should not receive any sort of external assistance.
- No Lego kits or Vega kits are allowed. If any robot is found sceptical, it will be immediately disqualified.
- At any point of the time, only one robot is allowed into the arena with only one participant if necessary.
- The Robot must deal with lighting conditions as they appear. No changes will be made individually to any participant. IR focusing cameras and flash photography will be allowed unless judges deem such activities.
- The participant cannot change the orientation of the robot before starting the race.
- Judges reserve the right to ask for the explanation of the robot. Judges also reserves a right to stop a run and disqualify the robot.
- Do not make any assumptions about the amount or type of light present at the site. However, a chance for calibration of the sensors will be provided.
- There may be alternative elimination methods in some cases. These may be posted before the race.
- All the robots will be racing on the same track for a given round.

- The number of robots qualified for the next round will be revealed prior to the contest.
- A maximum of four participants are allowed per team.
- No team is allowed to check their robot trials on the arena. They will be provided a small flex with a circle to test their robot.
- The selection into the next round is based upon the performance (time) in the previous round.
- All the figures given above just denote the shape of the arena but not their dimensions.

FAQS

Q. What if there is any tie among the participants?

Ans: If there is any tie between two robots then the two robots are asked to make a greater number of laps. Even if the tie doesn't break, the previous round scores will be considered.

Q. What if the robot exceeds size constraint?

Ans: It will be disqualified.

Q. What if the robot stops in the middle of the match?

Ans : 5-minute break is given to the robot to repair and join back in the race. If not, it will be disqualified.

Q. Can you brief about the final round?

Ans: Similar to qualifying round there will be junctions, acute angles, sharp curves, discontinuities, spaces, etc.

NOTE: The rules may be slightly modified during the competition. The organizers reserve the right for the same.

Registration Fee: Rs. 400/- per Team

Coordinator Details:

Aditi Dubey

Mobile Number: 7441133848

Ojas Sangra

Mobile Number:6006499457

TAILWIND

Each participant has to design and build a manually controlled wired/wireless bot that is capable of traversing a given terrain with ease and in less time. The arena is designed to test the mobility and speed of the bot in various terrains.

Arena Specifications:

- The arena will consist of the following terrains: Pebble, Sand, Water, Bumps, Wedges and Other obstacles..
- The width of the track will be 65cm .
- If the bot goes out of the track, penalty time will be added to the final track completion time.
- There is a provision for “pit stop” in case if the robot gets stuck at any point on the track after the race begins. In that case participant can lift the bot up and fix and continue from the same point as noted by the organizer. This time lapse will not be considered at any point. The race doesn't “pause”, the opponent can continue the race uninterruptedly.
- The participants are not allowed to touch the bot unless they take a pit stop.
- One is allowed to take a maximum of 4 pit stops of 10 seconds each.

Rules:

- The arena of the event will be disclosed 2 hours before the scheduled time of the event.
- Each team can have a maximum of 4 participants.
- A team may consist of students from different colleges.
- Certificate of excellence will be awarded to top two teams.
- Bots should not be disassembled until the results are declared.
- The organisers reserve the right to change the rules as they deem to fit.
- All students with a valid identity card of their respective colleges are eligible to participate in the event.
- Judge's decision will be final and binding to all.
- The bots cannot be constructed using readymade Lego kits however you can make use of readymade gear assemblies.

Bot Specifications:

- The bot should fit in a box of dimensions 30cm x 30cm x 30cm.
- The power supply used can be a maximum of 12 Volts which can either be on board or off board. IC Engines are not allowed.
- The bot can be wired or wireless.
- Sufficient wire should be brought, 3 meters minimum for wired bot.
- Provision to prevent entanglement of wires should be implemented.

Rules:

- In qualifying round, the bot has to pass through maximum number of checkpoints in a given time.
- Qualifications for further rounds will depend on number of participants.
- Slots are made available at the beginning of the game and no changes will be made further.
- There are different terrains and checkpoints through which the bot has to pass.
- Various limitations to the path are made on the terrain so as to have a competition based on their design.
- The bot completing the arena in least time will be declared as the winner.
- So, the participants should design their bot to suit these terrains which makes it more challenging for them.
- Only 2 members of a team are allowed to control the bot during the race.
- The teams will have to take care of their stock of batteries. Organizers are not responsible for the availability of the batteries near the event location.
- The bot will be disqualified if any part fails or falls off in the arena and is unable to continue.

Rounds:

The event will be carried out in **two rounds**.

First Round

In the first round, each bot will run individually and the points will be awarded on the basis of the number of checkpoints covered in the specified limit of time.

Second Round

In the second round, two bots will compete with each other simultaneously and time taken will be recorded. The total time taken to complete the whole circuit (single lap) will be taken into consideration and only three teams who will complete the arena in the least time will be selected.

NOTE: The rules may be slightly modified during the competition.
The organizers reserve the right for the same.

Registration Fee: Rs. 400/- per Team

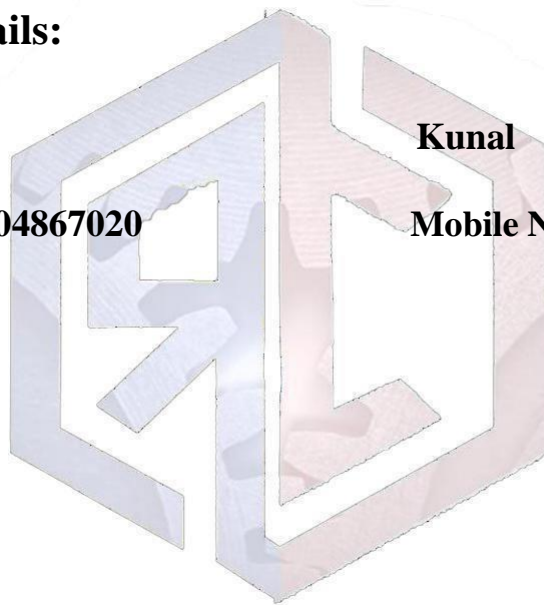
Coordinator Details:

Utkarsh

Mobile Number: 8804867020

Kunal

Mobile Number: 8210858058



BOOM BOTS

Gear up for rumbling engines, flamboyant wireless cars and adrenaline packed races at the all new Cross Roads. It's all about speed, control and accuracy, the bot that covers the track in the minimum time collecting the maximum points will be the champion.

Rules:

- The aim of this event is to design and build a wireless controlled car that can compete in various challenges such as a Maze and Obstacle Course.
- Teams must build their own wireless controlled Car for this event and no Lego Kit bots are allowed.
- The maximum dimensions of the wireless controlled Car should be 17cm (width) x 17cm (length) x 12cm (height).
- Robot must be controlled manually via wireless communication (Ex: Bluetooth, Radio, Wi-Fi).
- Rules of the event: The cars are required to find their way out of a 3-dimensional maze collecting the coins along the way (Both positive and negative points for coins will be allotted).
- The participants have to guide their car in an obstacle filled course. The obstacle course will test the car's speed and robustness.
- Dimensions will be strictly followed, if not the team will be disqualified.
- Venue to be informed on spot
- Maximum of four members in a team.

NOTE: The rules may be slightly modified by the co-ordinators during the competition.

Registration Fee: Rs. 400/- per Team

Coordinator Details:

Kshitiz

Mobile Number:9451671257

Aditya Dubey

Mobile Number: 9303774161

D-CYPHER

Coding is an integral part of Robotics. This event encourages students from all branches to participate and improve their coding and critical thinking skills.

Rules:

- A team can have a maximum of 2 members.
- The event has 2 rounds.
- For the first round, a set of 40 questions on coding aptitude will be provided.
- Top 10 teams of 1st round will be selected.
- 2nd round will be organized on HackerRank.com.
- There will be 4 to 5 programming questions.
- All participants must report at the venue 30 minutes before the event's commencement.
- The participants Id card must be signed by the coordinator.
- No time extension will be provided.
- Timing will be used as tie breaker.
- Copy pasting of code will not be allowed.
- Browsing or opening any other tab will not be allowed.

NOTE: The rules may be slightly modified during the competition. The organizers reserve the right for the same.

Registration Fee: Rs. 100/- per Team

Coordinator Details:

Aditya Raj

Mobile Number:7462969606

Sameer

Mobile Number: 9986094165

SOCCER STUN

The objective is to design a manual robot which can compete on an arena specially designed for robotic soccer match. It will be a one v/s one soccer match in which the aim will be to push the ball in the opponent's goal post. The most dexterous and quirky design prevail.

Robot Specifications:

- The robot should fit inside a box of 30cm x 30cm x 30cm.
- Robot should not exceed 8 kg.
- The robot can be wired, wireless or autonomous.
- The robot should be self-powered with supply not exceeding 12V (on board power supply).
- Power supply (only DC) should be on board. Participants cannot draw power from outside.
- Only one participant should control the robot, no player can be exchanged in the match.

Rules:

- Team can have maximum number of 4 members.
- Only one participant should control the robot no player can be exchanged in the middle of match.
- A robot can push or hit the ball. It cannot withhold or grab the ball.
- If the ball goes out of arena, it will be placed in the centre and match will be resumed.
- In case of a tie, 3 penalties will be taken by each team.
- Match duration will be announced on the event day.
- Human interference (e.g. touching the robot) during the game is not allowed.
- Decision of the Judges and Event Organizers shall be treated as final and binding on all and cannot be contested.
- No more AC/DC power supply will be provided at the sight of play.
- Coordinators reserve the right to ask for the explanation of the robot. The coordinator can change the rules of the game depending on the situation.

- Rules & Regulations may change without prior notice by the Event organizers.
- Positions of balls and obstacles in the arena will be decided by the organizers on the particular day of event.

NOTE: The rules may be slightly modified during the competition. The organizers reserve the right for the same.

Registration Fee: - Rs. 400/- per Team

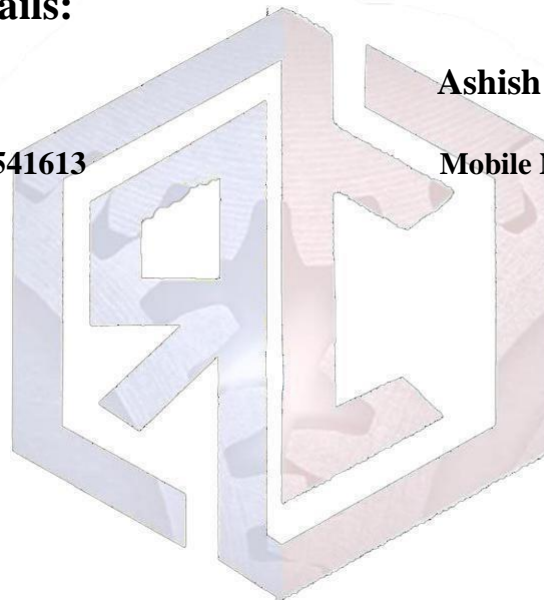
Coordinator Details:

Harsh Kant

Mobile Number:8340541613

Ashish

Mobile Number: 7619673936



ARDUINO TRAP

Come, let out the inventive genius in you. In this event, participants will have to go through a written test. The selected teams have to complete a task based on Arduino. The team taking minimum time will be the winner.

Rules:

- A team can have a maximum of 3 members.
- The event has 2 rounds.
- For the first round, a set of 30 questions on general technical skills will be provided.
- Top 7 teams of 1st round will be selected.
- There will be 3 tasks in 2nd round, based on Arduino and electronics.
- After completion of each task, next problem statement will be given.
- Arduino kit will be provided, participants will have to bring their own laptops.
- All participants must be at venue 30 minutes before the event's commencements.
- Judge's decision will be final.
- Rules & Regulations may change without prior notice by the Event organizers.

NOTE: The rules may be slightly modified during the competition. The organizers reserve the rights for the same.

Registration Fee: Rs. 150/- per Team

Coordinator Details:

Razee

Jeevitha

Mobile Number: 7880961348

Mobile Number: 8861272998

PROJECT SYMPOSIUM

Are you ready to show your skills? A Platform to build, develop and showcase your ideas.

SWEAT YOUR MIND AND WORK TO INNOVATE THE FUTURE!

Rules:

- A team can have 2 - 4 members.
- Project related to any domain will be accepted.
- Last date for abstract submission is **13th June, 2023**.
- The document format has to be in Microsoft Word (.doc or .docx) or Printable Document Format (.pdf) only.
- Soft copy of the abstract should be mailed to corsit@sit.ac.in.
- Working demo is encouraged.
- There will be 2 rounds of judgement.
- Component sharing is not allowed.
- Minimum one member should be there at desk at all times.
- Ideas related to robotics and new innovative technologies will help participants to gain bonus point.
- Bring at-least one extension per team.
- Judge's decision will be final and binding to all.
- Co-ordinators reserve the right to ask for the explanation of the robot. The coordinator can change the rules of the game depending on the situation

NOTE: The rules may be slightly modified during the competition without any prior notice. The organizers reserve the rights for the same.

Registration Fee: Rs. 400/- per Team

Coordinator Details:

Shruti Bharadwaj

Ayushman

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Mobile Number: 8808660936