



TAGORE INTERNATIONAL
SCHOOL VASANT VIHAR

kurious
Kurious Learning Labs



ORDIn@TRIX
24.0  kuriobots

ORDIN@TRIXKURIOBOTS

- ONLINE registrations will be done on a first come first served basis. No registration will be taken on the day of the event. Registrations will close on Thursday, 18 April 2024 by 12 noon. Please register through the link given below:
(Registration Link)
- The theme for this year is "TechVolve: Innovating for Impact."
- For all submission-based events, kindly submit the entries only through the submission links shared along with the prompt.
- Participants must report to the school for the event between 8:00 and 8:30 am. Please ensure that each team is accompanied by a teacher.
- The schools are requested to register ONLY one team per event and a participant can take part in ONLY one offline event.
- All future correspondence will be done through Discord and Mail.
- The result of preliminary rounds will be posted on the event website and on Discord.
- Please note that the decisions of the organizers & jury members regarding any issue related to Ordin@trixkuriobots will be FINAL and BINDING for all schools and participants.
- The host school will be taking part in the event; however, it will not be competing for any winning position.
- All participants will be awarded an e-certificate of participation.
- An overall trophy will be awarded to the team which secures the maximum points in the competition.
- Please refer to the event website (link below) for the latest updates on the events

Event website:

Join our discord server:

School website: <https://www.tagoreint.com/vv>

Instagram Page: https://www.instagram.com/pyrotech_tisvv/

For any query regarding the event , you can contact :

The Pyrotech Club - pyrotech@tagoreint.com or event heads at ->>>>

Event Name	Event Head
@Kuriovation	Lavnika Nanda- lavnikapyrotech@gmail.com
@MechaMarvel	Atharva Chauhan- atharvapyrotech@gmail.com
@Synapse	Tanveer Singh- tanveerpyrotech@gmail.com Arnav Kashyap- arnavpyrotech@gmail.com
@Arcadia	Sashreek Kumar- sashreekpyrotech@gmail.com
@CypherNexus	Reyansh Adlakha- reyanshpyrotech@gmail.com
@QuantaLens	Harshit Kumar- harshitpyrotech@gmail.com
@RoboRush	Sidak Singh- sidakpyrotech@gmail.com
@AquaDash	Akshat Hatwal- akshatpyrotech@gmail.com
@TechTales	Aneira Shewaramani- aneirapyrotech@gmail.com

OKURU INNOVATION

Classes: 6-12

No of students in a team: 2

No of teams allowed per school: 1

Mode: Prelims - Submission based

Finals - Offline (Thursday, 9 May 2024)

Theme: Innovation for Persons with Disabilities

Guidelines

- Students will have to submit their ideas for prelims. The idea must make use of robotics/IOT for developing prompt appropriate gadgets.
- They must submit a word document containing the synopsis of their idea containing a description and the problem statement
- They must also submit a video of 2-3 minutes showcasing the model.
- Submission to be done by Thursday, 25 April 2024
- A total of 25 teams will be selected for the final round which will be held offline in the school premises.
- Participants have to present their project/idea and are required to use a working model for the same
- Participants will be given 5 minutes to present their ideas on the final day
- The theme must be applied in reference to SDG Goals

The results of the prelims will be announced on Wednesday, 01 May 2024 with the list of participants for the finals.

Judgement criteria:

- Originality/ Creativity
- Problem solving and solution
- Objective of the Project
- Project Design and Construction Compatibility
- Implementation and feasibility in the market

Sumo Robotics

Classes: 9-12
No of students in a team: 2
No of teams allowed per school: 1
Mode: Offline (Thursday, 9 May 2024)

- The first 16 teams to register will be allowed to participate.
- Sumo robotics is a competitive sport where teams create robots to push or flip opponents out of a ring. Two autonomous robots will have a face off, aiming to stay in the arena while forcing the others out. The winner will be determined based on the most points earned by a robot at the end of the matches.

Bot Specifications:

- A Sumo Bot must fit within a square box of 25cm X 25cm with unlimited height. Screws, nuts, and other robot parts with a total mass of less than 5 grams.
- The maximum weight should not be more than 3 Kgs (including the battery for wirelessly controlled bots. However, a tolerance of 5% is acceptable).
- Batteries must be sealed, immobilized electrolyte type (gel cell, lithium, NiCad, or dry cells).
- Batteries must be 12 volts for this challenge.
- The bot can be autonomous or manually controlled using a remote-control system.
- Each robot must carry a top marker unique identity which can be distinguished by the referee easily.
- If bots are painted, they must be painted matte.
- Bots must be constructed and programmed, so that the movement is not limited to only one direction and must move in all directions.

RoboCup@New Jersey

- Any robotic parts/building material can be used until the bot meets the above specifications.

- Ready-made bots are not allowed to compete in the competition.

Arena:

- The ring will be circular in shape and of the appropriate diameter will be 180 cm, height 5 cm
- Straight lines consist of two painted parallel brown (or equivalent for absorption of IR Light) lines centered in the ring with appropriate width of 2 cm, a length 20 cm and a separation 20 cm. The separation distance between the lines is measured to the outside edges. White border width would be 5 cm.
- The border line is marked as a white circular ring on the outer edge of the playing surface. The ring area extends to the outside edge of this circular line.

WORLD CUP IN ARTIFICIAL INTELLIGENCE

Classes: 9-12
No of teams allowed per school: 1
No of participants per school: 4
Mode: Prelims - Submission based
Finals - Offline (Thursday, 09 May 2024)

Prelims:

- Develop a business idea/product/service that leverages Artificial Intelligence to address a prompt which will be released on Saturday 20 April 2024.
- The submission link will be shared with the prompt.
- Submission to be done by Wednesday, 01 May 2024

Submission Requirements:

- 3-D model/UI design
- Posters
- Logo
- Trailer/Advertisement/Commercial (any music can be used but use of templates is strictly prohibited)
- Website/App (choose 1)

Additional Guidelines:

- While a working model of the Artificially Intelligent idea/product/service is not mandatory, you must provide a prototype in the early stages of development. The prototype may include explanations of algorithms and methodologies, accompanied by an edited video demonstrating the working of the model.

Judgement criteria for prelims:

- Integration of AI into business
- Quality of deliverables
- Originality/ Creativity
- Business Idea

The results of the prelims will be announced on Saturday, 04 May 2024 with the list of participants for the finals.

Finals:

- Top 10 teams will qualify for the finals
- The teams are required to make a presentation of 10-12 slides including typography and suitable color scheme, with the following points included:
 - Implementation of AI
 - Target market customer analysis competitors operations
 - Marketing and Financial
 - SWOT analysis
- The presentation has to be made in front of a panel of judges, but the draft for the same has to be submitted by 8:00pm, Tuesday, 7 May 2024. Each team will get 5 minutes to present their idea followed by Q & A for 2-3 minutes.

Note: Please ensure that the team completes their presentation within the allocated time limit to avoid any deductions in points.

Judgement criteria for finals:

- Integration of AI into business
- Originality/ Creativity
- Business Idea
- Problem solving and solution

Discord

Classes: 9-12

No of teams allowed per school: 1

No of participants per school: 5

Mode: Online

The game to be played is 'VALORANT' in a 5v5 mode.

All teams will be put into brackets and all the matches in the tournament will be knockouts except the semi finals and finals which will be a best of 3.

Software minimum requirements:

- Windows 7/8/10 64-bit
- Ram 4GB
- VRAM 1GB
- Recommended Specs: CPU: Intel i3-4150 | GPU: Geforce GT 730
- The event will start at 9:30 am onwards on Saturday, 4 May 2024 and on Sunday, 5 May 2024. The Discord Server link has been given in the General Guidelines. Only the registered participants would get the access to the gaming channel after verification. Participants will be requested to join the server at least two days prior to the event with their real names.
- The schedule will be laid out in advance on the Discord Server itself. Timings will be fixed, no change in schedule will be entertained afterwards.
- During verification, participants will also be requested to post their in-game ID's below their real name and only registered accounts will be allowed to join the tournament custom. If any unregistered account joins the custom lobby, they will be removed instantly.
- The use of any kind of hack and/or aimbot is strictly prohibited.

NEXUS

Classes: 9-12
No of students in a team: 1
No of teams allowed per school: 1
Mode: Prelims - Online, Tuesday 30 April 2024
Finals - Offline, Thursday, 9 May 2024
Language: Python

Prelims:

Duration: 1 Hour 15 Minutes

Date and time: Tuesday, 30 April 2024, 5:00 pm

Platform: Hackerrank

- The participants will have to solve various problems based on Python basics, data structure, logics, patterns and algorithms.
- Participants will have to join a Google Meet link for the duration of the contest. The link will be released on Discord 30 minutes before the event commences.
- Participants found to have simply copied the code, would be immediately disqualified. Participants may be asked to explain their code after the online round has finished. Use of ChatGPT is strictly prohibited.
- Each problem will have a predetermined score and the participants' score will depend on the number of successful test cases. The difficulty and the score of each problem increases as participants progress through the contest
- Participants will be ranked by their scores. If two or more participants achieve the same score, then the tie will be broken by the total time taken to submit the last solution

The results of the prelims will be announced on Saturday, 04 May 2024 with the list of participants for the finals

SurveXus

Finals:

Duration: 1 Hour 30 Minutes

Date: 09 May 2024

- The top 10 teams from the prelims round will qualify for the final round which will be held offline.
- The participants will be provided with systems and will be done on Python IDLE.
- Participants are allowed to use inbuilt libraries only
- Participants are also prohibited from carrying their personal devices for the final round and will not be provided internet access.
- If two or more participants achieve the same score then the tie will be broken by another question. The time taken by the tied participants to solve this question, will be taken into consideration

Judgement criteria:

- Completion of Programs
- Correct Execution/ Clarity
- Correct Output - Test Cases Passed
- Time Taken

SCWUVENTURE

Classes: 9-12
No of students per team: 2
No of teams allowed per school: 1
Mode: Prelims- Submission based

Finals - Offline, Thursday, 9 May 2024

Prelims:

- A prompt will be released on Saturday, 20 April 2024 and participants are required to submit a picture which correlates to the given prompt.
- Format of submission jpeg with metadata.
- Submission to be done by Wednesday, 01 May 2024
- Photos should have been clicked after 01 January 2024.

Requirements:

- Submit both raw and edited versions.
- File name should be NAME OF PARTICIPANT_SCHOOL_IMAGE(edited/raw).
- Basic enhancements are allowed, but the raw photo must be included.
- Originality is mandatory and any sort of plagiarism will result in immediate disqualification.
- Include a title and the metadata with your submission

The results of the prelims will be announced on Saturday, 04 May 2024 with the list of participants for the final

Finals:

- Topics will be released two days prior to the offline event through the official communication channels.
- Each team will consist of a model and a photographer. Models can bring props, clothing changes, etc. in order to help capture the prompt in the most appropriate and best possible way.

SCWUANTIL

- The participants will have to bring their own DSLR to click pictures (phone photography is not permitted).
- Participants will get 1 hour to click pictures and an additional 30 minutes for photo manipulation, for which the participants need to get their own laptops.
- Editing will be permitted without any limitations; however, participants will undergo supervision, and participants must submit both the original and edited images for review.
- The images will be submitted in jpg format.
- Participants will get 1 minute to explain their photographs, the idea and concept to the judges. Following which there will be cross questioning by the judges.

Judgement Criteria:

- Originality
- Creativity
- Ideas/concept/topic adherence
- Composition and technical use

Engineering Robotics

Classes: 9-12
No of students per team: 2
No of teams allowed per school: 1
Mode: Offline (Thursday, 9 May 2024)

- The first 16 teams to register will be allowed to participate.
- Teams have to Design a wired/wireless manually controlled robot which should be able to travel on sand, marbles, water, etc. The robot that traverses all the hurdles and completes the track in minimum amount of time will be declared as the winner.

Bot specifications:

- The dimensions of the bot should be less than or equal to 300mm X 300mm X 300mm (lxbxh) ,the team which will be failing, will be disqualified from the competition (this excludes the dimension of the gripper but includes tires). The bot can, however, extend its dimension once the run starts. An error of ($\pm 5\%$) is permitted.
- The bot must be controlled manually.
- Maximum weight should not be more than 5Kgs including battery, however a tolerance of 5% is acceptable in weight.
- Teams can use both wired as well as wireless control mechanisms. In the case of wired bots, the length of the wire should be a minimum of 2 meters so that the wire remains slack at any instant of time. If the participants use a wireless mechanism they have to use a dual-frequency remote, Bluetooth, or Wi-Fi.
- The dimensions of the remote are not included in the size constraint of the bot.
- Participants are not supposed to use any readymade Lego components or readymade gripping mechanism. However, the participants are allowed to use ready-made gear assemblies.

FutureBots

- The body of the vehicle must be covered, to avoid any entanglement between two competing robots.

Power Supply:

- The participants should use an onboard electric or non-electric power supply i.e. the power source should be on the bot itself. The power source must be non-polluting and must satisfy the safety constraints determined by the organizers.
- In the case of an electric power supply, the voltage between any two points should be less than or equal to 24V DC at all times during the run.
- AC power supply will not be provided and cannot be used in the competition

Arena:

- The robot has to traverse through a rough terrain of width 1.2m which is surrounded by a barrier of height 10 cm. The arena has different types of regions or checkpoints
- The robot has to move across a series of speed breakers.
- The robot has to move through a pit.
- A small portion of the track is filled with sand (with depth 2cm) on which the robot has to traverse.
- The track is elevated with an inclination of 30 degrees in this part.
- In this region, the robot has to travel through a damp area, filled with water with a depth of 3cm.
- Predefined Obstacles for the competition will include Switch Bridge, speed breakers, marble pit, slippery path, rotating ring disc, curve ramp down, seesaw, etc.

Engineering

Classes: 6-8
No of students per team: 2
No of teams allowed per school: 1
Mode: Offline (Thursday, 9 May 2024)

- The first 16 teams to register will be allowed to participate.
 - To design and build a manually controlled boat that has to sail through the obstacles in the arena and complete the race task before the other boat. The boat should compulsorily be wireless and powered by batteries. Wired boats are NOT allowed.
 - Teams will have to compete in the given arena, starting from two opposite ends. The boat which reaches the other end first will win.
- Bot specifications:
- The robot must totally fit into a 300mm(length) x 200mm(width) x 200mm(height) i.e the robot should strictly be smaller than a cuboid of the given dimensions.
 - No external power supply will be allowed. Participants will be allowed to use only an on-board power supply. Teams shall bring their own power supply.
 - Using Lego kits or any other ready-made mechanism for the construction of the robot is strictly not allowed.
 - Violation of the stated rule will imply disqualification of the particular team. The robot must not harm other robots or the arena. Any team found to violate this may be disqualified from the competition.
 - The robots should not contain any corrosive, harmful or combustible substances due to safety concerns.

Engineering

- There should be an emergency stop button on the robot that pauses it when it is pressed in unpleasant circumstances.
- The design presented by the teams should be original (not protected by means of patent/copyright/technical publication by anyone).

Arena

- The arena will consist of certain obstacles and checkpoints carrying predefined points. The robot should be able to navigate through the obstacles with utmost stability while maintaining an appropriate pace.
- The arena will be a tank having water, in which two boats will race to reach the finish line first. A robot will have completed the task after having reached the finish line, to the other end of the arena.

The obstacles will be of the following type:

- Fixed bar floaters placed at constant gaps through which the robot has to maneuver.
- Fixed cylinders through which the robot has to navigate.
- There might be a surprise obstacle carrying certain bonus points.

UNIVERSITY OF TWENTE

Classes: 4-5
No of students per team: 2
No of teams allowed per school: 1
Mode: Offline

- The first 15 teams to register will be allowed to participate.
- Participants have to make a comic strip on the prompt given on the spot, using Canva.
- Participants will be provided with the Canva ID credentials by the host school.
- Participants will get 1.5 hours to complete the project.
- There should be a minimum of 2 pages consisting of 6-8 panels on each.
- Plagiarism is unacceptable and will lead to disqualification.

Judgment criteria

- Originality
- Creativity
- Software Utilization
- Overall Presentation