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ROBOTHRONE

Brochure

Rise to the challenge, rule the metal, and let innovation be your throne. In the arena of robots, victory belongs to those who dare to create the future.

@techyg24

Table of Content

1.Introduction

Welcome to the Robothrone Competition!

Step into the future of innovation and creativity at our Robotics Competition, where engineering brilliance meets technological advancement. This event brings together aspiring minds, seasoned professionals, and robotics enthusiasts to showcase their talent, tackle real-world challenges, and push the boundaries of what robots can achieve.

Participants will navigate through exciting problem statements, build cutting-edge prototypes, and compete to solve tasks that demand technical prowess, teamwork, and out-of-the-box thinking. Whether you're here to compete, learn, or simply witness the marvel of robotics, this competition promises inspiration and excitement for all.

Join us as we celebrate ingenuity, foster innovation, and pave the way for tomorrow's breakthroughs in robotics!

2. Benefits Of Participation

Participating in a robotics competition offers children a host of valuable benefits that go far beyond just having fun. Here's how it helps in their overall development:

1. Encourages STEM Learning

- Hands-on experience with Science, Technology, Engineering, and Mathematics.
- Practical application of theoretical knowledge in real-world scenarios.

2. Builds Problem-Solving Skills

- Kids learn to analyze challenges and develop creative, effective solutions.
- Encourages critical thinking and adaptability.

3. Enhances Teamwork and Collaboration

- Working in teams helps kids understand the importance of cooperation and effective communication.
- Encourages leadership and responsibility-sharing.

4. Boosts Creativity and Innovation

- Designing and programming robots inspire out-of-the-box thinking.
- Provides a platform to turn imaginative ideas into tangible projects.

5. Develops Technical Skills

- Hands-on exposure to coding, electronics, and mechanics.
- Builds foundational skills that are valuable for future careers.

6. Fosters Confidence and Resilience

- Overcoming challenges and competing instills a sense of accomplishment.
- Kids learn to handle failures positively and persevere.

7. Provides a Competitive Edge

- Early exposure to robotics can spark interest in technology-related fields.
- Encourages kids to stay curious and continue learning.

8. Fun and Engagement

- Robotics competitions are exciting and provide a fun way to learn.
- Kids build friendships with peers who share similar interests.

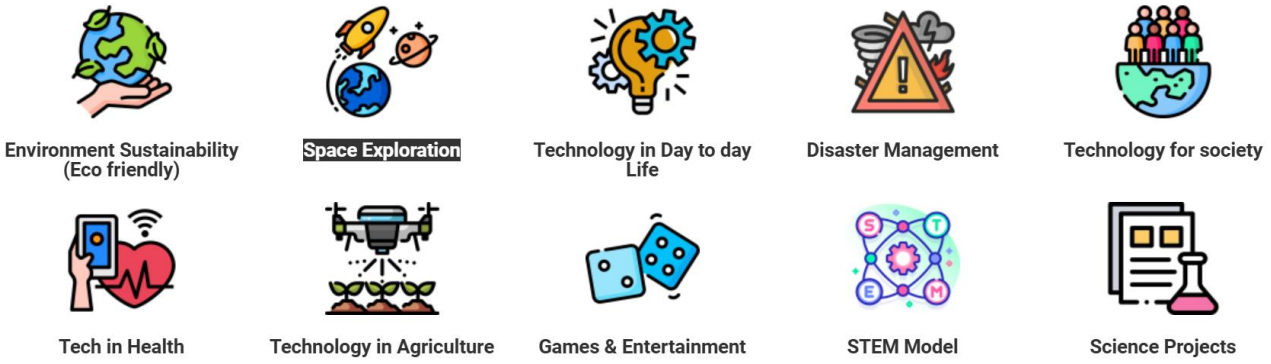
9. Future-Ready Skills

- Robotics is an integral part of the future; participating prepares kids for the evolving world of technology.

10. Global Exposure

- Many competitions include interactions with peers from around the world, broadening perspectives and fostering cultural exchange.

3. Themes for Competition



A. For Advance & Pro Group

3.1. Environment Sustainability

Robotics can play a significant role in addressing environmental challenges by offering innovative solutions to promote sustainability.

3.2. Space Exploration

Space Explorer Projects are initiatives, programs, or activities designed to explore, study, and understand outer space. These projects often focus on advancing space exploration technologies, conducting scientific research, and solving challenges associated with space travel and extraterrestrial environments.

3.3. Technology in Day to Day Life

Technology in day-to-day life refers to the application of scientific knowledge, tools, and systems to simplify, enhance, and improve everyday tasks and activities. It encompasses the gadgets, applications, and innovations we use regularly to communicate, work, learn, travel, manage our homes, and entertain ourselves.

3.4. . Disaster Managment

Disaster Management refers to the systematic process of preparing for, responding to, and recovering from natural or man-made disasters to minimize their impact on human life, property, and the environment. It involves a coordinated effort among governments, organizations, and communities to mitigate risks, enhance resilience, and ensure efficient recovery.

3.5. Technology For Society

Technology for society refers to the use of scientific advancements, tools, and innovations to address societal needs, improve quality of life, and solve challenges across various sectors. It emphasizes leveraging technology for the greater good, promoting inclusivity, sustainability, and social well-being.

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3.6. Technology in Health

Technology in health, often referred to as health tech, encompasses the use of advanced tools, systems, and devices to improve healthcare delivery, diagnosis, treatment, and patient outcomes. It transforms traditional healthcare practices, making them more efficient, accessible, and personalized.

3.7. Technology in Agriculture

Technology in agriculture, often referred to as **AgriTech**, involves the use of innovative tools, techniques, and systems to enhance productivity, efficiency, and sustainability in farming and related practices. It addresses challenges like food security, resource management, and environmental impact while transforming traditional farming into a modern, data-driven industry.

B. For Junior Group

3.8 . Games & Entertainment

Robotics in games and entertainment involves designing and building robots or robotic systems that enhance interactive experiences, creativity, and engagement. These projects combine engineering, design, and programming to create fun, innovative, and immersive experiences.

3.9. STEM Projects

STEM (Science, Technology, Engineering, and Mathematics) model projects integrate these disciplines to solve real-world problems, explore scientific concepts, and develop practical skills. These projects engage students in hands-on activities that encourage critical thinking, creativity, and problem-solving, and they often involve interdisciplinary collaboration.

3.10. Science Projects

Science projects are an excellent way to explore scientific concepts and develop critical thinking and problem-solving skills. They can range from simple experiments for beginners to more advanced research for older students.

Example of Projects:

Waste Management and Recycling

- **EcoBot Recycler**: A robot that segregates waste into recyclable and non-recyclable materials.
- **Trash Tracker**: A robotic system that identifies and collects litter in public spaces.
- **Bin Buddy**: A smart waste bin that uses sensors to alert when it is full and sorts waste automatically.
- **RecycloMate**: A robot designed to clean, sort, and prepare materials for recycling.
- **RoboClean Sweep**: An autonomous robot for cleaning parks and roads.

Renewable Energy

- **Solar Tracker Bot**: A robot that adjusts solar panels to maximize sunlight exposure.
- **Wind Tech Rover**: A robot that monitors and maintains wind turbines.
- **Hydro Bot**: A robot that optimizes water usage for micro-hydro energy projects.
- **Eco Charge Rover**: A robot that aids in the setup and monitoring of renewable energy installations.

Water Conservation and Pollution Control

- **AquaClean Bot**: A robot designed to clean polluted rivers, lakes, or oceans.
- **H2O Sentinel**: A robot that monitors water quality and detects contaminants.
- **Leak Seeker**: An AI-powered robot for detecting and fixing water leaks in pipelines.
- **Ocean Saver Drone**: An aquatic robot that collects plastic waste from oceans.
- **Smart Irrigator**: A robotic system that efficiently waters crops, minimizing waste.

Climate Change and Air Quality

- **AirBot Analyzer**: A robot that measures air pollution and provides data for action plans.
- **Tree Planting Drone**: A robot that automates the planting of trees for reforestation.
- **Carbon Capture Rover**: A robot that helps trap carbon dioxide in sustainable ways.
- **Green Guardian**: A robot that monitors and maintains urban greenery.

Agriculture and Sustainable Farming

- **AgriBot Planter**: A robot that plants crops with precision, reducing waste and improving yield.
- **Weed Terminator**: A robot that removes weeds without using harmful chemicals.
- **Soil Sentinel**: A robot that analyzes soil health and suggests sustainable farming practices.
- **Pollinator Drone**: A robot that mimics pollinators like bees to support agriculture.

Urban and Smart Cities

- **Green Roof Rover**: A robot that maintains vegetation on rooftops for urban sustainability.
- **Energy Saver Bot**: A robot that monitors and reduces energy wastage in buildings.
- **Eco-Walk Assistant**: A robot that educates the public on environmental practices during city tours.
- **Street Sweeper 2.0**: A robot that cleans streets and segregates recyclable debris.

General Environmental Projects

- **Sustain-o-Bot**: A multi-purpose robot designed for environmental monitoring and maintenance.
- **Eco Patrol Bot**: A robot that patrols areas to detect environmental hazards or illegal dumping.
- **Bio Restorer**: A robot that helps restore ecosystems by planting native species and removing invasive ones.
- **Climate Change Sentinel**: A robot that monitors environmental changes and records critical data for researchers.

Note: above examples are for reference purpose only students can use any projects coming under the theme.

4. Terms & Condition of Participation

A. Registration Fee

Every team need to register by or before 30th Nov by paying Rs.300 per team in the registration page.

B. Team Size

Team Size is minimum one and maximum 2 students from same age group.

C. Category

The competition has been divided into 3 group based on Age

- Junior (Grade 3rd & 4th)
- Advance(Grade 5th, 6th & 7th)
- Pro(Grade 8th to Grade 12th)

D. Participation Rule

1. Project Topic should be matching the given topic themes selected at the time of registration.
2. Project may or may not be copied but it should be innovative and problem solving in real time.

3. Submission of 1 project per team is allowed.
4. Every team has to submit a working video of the project, a project documentation minimum 200 words and code in the submission link.
5. Project document must include

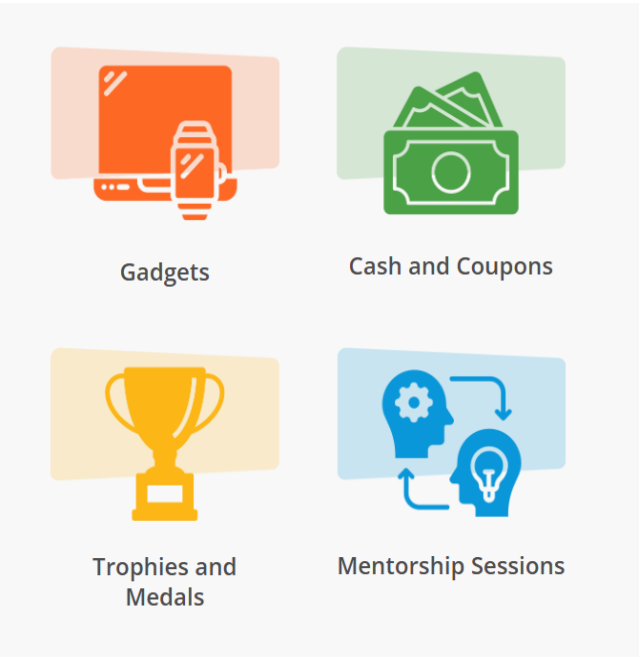
- Aim of the Projects
- Components used in the project
- Circuit Diagram of the project
- Outcome of the Projects
- How it is solving a problem based on competition theme.

6. Video should be from 5min – 10min and the size is max 50MB.
7. There Should be one mentor for each team.
8. Hardware Projects containing any micro controller is mandatory for Advance & Pro Group

5. Prizes

A. Participation Prize

Every team who have submitted the project successfully will get a certificate and one online course based on Coding, AI or Robotics worth Rs. 5000



B. Innovator's Prize

- Prize worth Rs. 20000 for Pro Group
- Prize worth Rs. 15000 for Advance Group
- Prize worth Rs. 10000 for Junior Group

- Prizes include of Electronics gadgets, Cash , Coupons and Advance Robotics Kit.

- Every group has 1st, 2nd & third Prize.

6. General Guideline

How to Participate?
STEP 1: Register

1. Go to Robothrone Website https://www.techyguide.in/competition/
2. Click on Register and fill the basic details, theme of projects and pay the registration fee.

Registration Begins: Nov 18, 2024
Last Date to register is 30th Nov 2024

STEP 2: Prepare After successful registration, and updating your team details, the next stage is learning and preparation of the projects. In case you need some help in projects you can share your query on robothrone@ techyguide.in .

STEP 3: Submit the final project online in the prescribed format

STEP 4: Hold your horses and wait for the Award ceremony to get your prizes.

For Any Queries you can write us on robothrone@techyguide.in and our executive you call you to solve your queries.