PETROSAINS RBTX CHALLENGE 2024

FREQUENTLY ASKED QUESTIONS (FAQ)

1. What is Petrosains RBTX Challenge 2024?

   Petrosains RBTX Challenge compliments PETRONAS's sustainability goals by democratising STEM learning. Participants gain access to unlimited open-source coding software and a diverse array of robotics equipment, empowering them to develop skills essentials for a future-ready workforce. This year's program revolves around sustainability, urging participants to adopt sustainable practices and create projects that contribute to a more sustainable future. Game challenges or innovative solutions will address critical issues like reducing waste, conserving energy, or protecting the environment. By fostering such initiatives, Petrosains RBTX Challenge actively supports PETRONAS' vision of being a progressive energy and solutions partner that enriches lives for a sustainable future.

   Petrosains RBTX Challenge 2024 has three main categories which are Robo Sumo, Robo Tracer and Innovation, encompassing eight sub-categories: Robo Sumo 1kg, Robo Sumo 3kg, Robo Sumo 500g RC, Green Heroes, Tech Marvels, Speed Rivals, Net Zero Carbon Emissions (NZCE) and Indigenous Culture Technology (closed category). Each sub-category has its own specific rules and regulations.

   The programme aims to achieve the following the objectives:

   √ To democratise and make STEM Learning accessible to all by allowing participants to use unlimited open-source coding software and a wide range of robotics equipment in pursuing their interest in robotics.
   √ To cultivate participants' 4C skills (Communication, Collaboration, Critical Thinking and Creativity) in line with future industrial needs, and subsequently, contribute to our nation's economic growth.
   √ To raise awareness and educate participants about the importance of Fourth Industrial Revolution (4IR) essential technologies, such as robotics, Internet of Things (IoT) and Artificial Intelligence (AI).

2. When was Petrosains RBTX Challenge first introduced?

   Petrosains RBTX Challenge was first introduced in 2018.

3. Who can participate in this programme?

- This competition is open to all Malaysians, students and teachers under the Ministry of Education and International participants except those from countries listed in *United Nations Security Council Sanctions through this website* https://www.un.org/securitycouncil/sanctions/information.

4. How can I register for Petrosains RBTX Challenge 2024?

   To register, please follow these steps:

- Step 1 : Visit Petrosains RBTX Challenge 2024 microsite at https://petrosains.com.my/rbtx-challenge-2024/
- Step 2 : Choose your preferred category.
- Step 4 : Click on "Register" and sign up.
- Step 5 : Follow the registration steps as outlined.

5. Can I register for more than one category?

   Everyone is allowed to sign up for one team in one category only. Participants are **not allowed** to sign up for more than one team, or in more than one category.

6. How much is the registration fee?

   Registration is free.

7. What is an autonomous robot?

   An autonomous robot is a robotic system that can perform tasks or make decisions without direct human intervention or control. It is designed to operate independently, using its onboard sensors, processors, and algorithms to perceive and interact with its environment, analyse data, and execute actions or behaviours based on pre-programmed instructions or learned behaviours. Autonomous robots are equipped with various sensors such as cameras, lidar, ultrasonic sensors, or other types of environmental perception devices. These sensors allow the robot to gather information about its surroundings, such as detecting obstacles, measuring

distances, or recognising objects. Using the data from its sensors, an autonomous robot employs algorithms and decision-making processes to interpret and understand the information, make intelligent choices, and carry out actions accordingly. These algorithms may include techniques from areas such as computer vision, machine learning, path planning, and control systems.

8. What are the benefits of participating in Petrosains RBTX Challenge 2024?

- A total of RM 48,000 in prizes and e-certificates will be awarded to winners in eight sub-categories.

- Students from schools under MOE will get a Robotics e-badge via the DELIMa portal, indicating specific skills obtained through participation.

- As participants, Malaysian students will be able to collect PAJSK points (Pentaksiran Aktiviti Jasmani Sukan dan Kokurikulum) and receive e-certificates by participating in Petrosains RBTX Challenge programmes such as Robotic workshops, Innovation Basecamp, Innovation Bootcamp.

- Teacher advisors can record their involvement in the SPLKPM portal (Sistem Pengurusan Latihan) supported by an e-certificate received from participating in Petrosains RBTX Challenge programmes such as Robotic workshops, Qualifying rounds and Grand Finals.

- Participants will get an exclusive access to RBTX Portal which contains useful online learning materials to enhance their knowledge of robotics.

- Participants will have the opportunity to join the Digital Ninja programme by MDEC and lots more.

- The champion of the Robo Sumo 3kg category will have the opportunity to participate in the All-Japan Robot Sumo Tournament 2024 in Tokyo, Japan.

9. Is there any specific robot brand or type to be used during the robotic competition?

   Participants of Petrosains RBTX Challenge 2024 have access to unlimited open-source coding software and a diverse range of robotics equipment which can be used as long as you adhere to the specifications and regulations outlined in each category.

10. Can I use pre-built robot kits or ready-made components?

    Yes, as long as you adhere to the specifications and regulations outlined in each category.

11. My older sister works with Petrosains. Can I join?

    Employees of Petrosains, its organising committees, advertising and promotion agencies and their immediate family members are not eligible to participate in the competition. Immediate family members include spouses, parents and children.

12. I'm new to programming and need guidance on how to get started with coding for my robot. Can you provide some resources or tips?

    Upon participating in Petrosains RBTX Challenge 2024, you will have full access to the RBTX Portal. This portal contains online learning materials that can guide new participants in basic programming and robotic knowledge. You can also visit Petrosains' [Youtube Channel](#) or join robotic classes online in your local community.

13. Are the challenges in the Grand Finals more difficult than in the earlier stages?

    We will call all finalists for a comprehensive briefing prior to the Grand Finals, during which we will share any new obstacles, additional checkpoints, or increased difficulty on the tracks.

14. Will the competition cover the expense for travel and accommodation during the Zone Qualifying rounds and the Grand Finals?

    Petrosains and its affiliates will not be responsible for any cost incurred, including those that may arise from the participant's involvement in the competition.

15. I'm from South Korea. Can I participate in Robo Sumo 1kg category?

    Teams consisting of participants residing in Malaysia are eligible to participate in any category offered in this year's competition. However, teams consisting of participants residing outside Malaysia (referred to as international participants) are only allowed to participate in the following categories:

    a. Robo Sumo [500 g RC]: Aged 7 years to 17
    b. Robo Sumo [3kg]: Aged 10 years & above
    c. Robo Tracer [Speed Rivals]: Aged 10 years & above
    d. Innovation [NZCE]: Aged 10 years & above

16. What type of material would be suitable for printing a robot track for practice?

    Matte tarpaulin

17. Can we share the same robot even if we are from different competing teams?

    Each competing team MUST have their own set of robots to enter this competition.

18. When and where will Petrosains RBTX Challenge 2024 Grand Finals be held?

    The Grand Finals will be held on 26th & 27th October 2024. The location will be in Klang Valley; the confirmed venue will be announced soon.

19. I registered in Tech Marvels, where can I get the tasks or challenges for the Zone Qualifying round?

    Selected participants will receive an invitation to attend an online briefing session for the Zone Qualifying round via email.

20. If I am selected for the Grand Finals, can I upgrade my robot parts?

    Yes. You can upgrade any part of your robot as long as it follows the specifications stated in the rules and regulations.

21. Is it compulsory to wear a face mask during the Petrosains RBTX Challenge 2024 programs such as Workshops, Qualifying and Grand Finals?

Wearing a face mask during the workshop and competition is not mandatory. However, it is recommended to do so as a precautionary measure to minimise the risk, in addition to practising good hand hygiene and maintaining physical distance when possible.

22. I am 26 years old and interested in joining the Speed Rivals category. Can I participate in the competition alone without any guardian/teacher? (I noticed that there's a need to fill up the guardian/teacher column in the registration form).

Yes. You can participate in the competition alone. The guardian/teacher column is only applicable to participants below 18 years old.

23. Am I allowed to bring my family or friends to the competition?

Yes, participants are encouraged to bring family and friends to the competition as supporters. However, they (family or friends) are not allowed to be in the game arena during the competition and must follow all the rules & regulations set by the organiser throughout the event.

24. I am a school student, but I want to register as an individual participant (not under my school). Can Petrosains provide me with an official letter of participation to obtain approval for my release from school?

Yes. We can provide you with an official letter of participation. To request the letter, please contact our Secretariat via email or phone. Kindly provide all the necessary information, and we will prepare the letter for you promptly.