

# **ROBOCON MALAYSIA JUNIOR 2021**



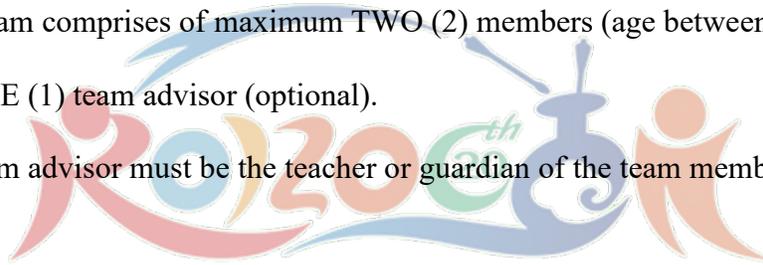
## **RULES & REGULATIONS**

## A. Introduction:

The Robo Sumo Challenge involves deploying a self-built autonomous robot to push specified objects out of the ring in the fastest time possible. The time taken to push all the objects will be recorded. This competition is open to any primary and secondary school students.

## B. Team:

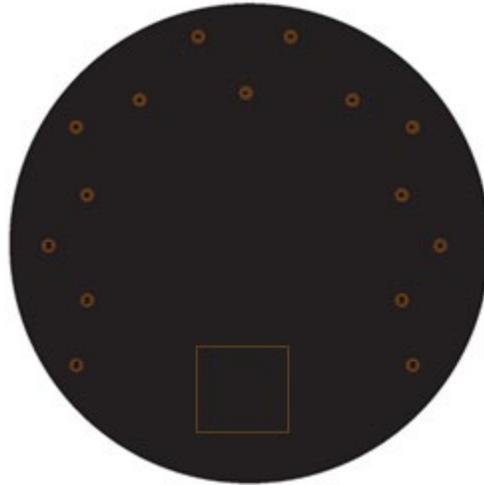
1. Each team comprises of maximum TWO (2) members (age between 6 to 17 years old) and ONE (1) team advisor (optional).
2. The team advisor must be the teacher or guardian of the team members.



## C. Sumo Ring:

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1. The ring is a black surface circle with a diameter of 700mm printed on a white surface.
2. There is a 15cm x 15cm robot start box, outline with **dark brown** line, in the ring.
3. Object placement spots are indicated by the **dark brown** dots (with a diameter of 20mm) around the ring.
4. The ring should be printed on a white A0 size paper (or any acceptable printable material). Each team is **responsible** to ensure the quality of the competition track which includes the printing material, colour tone and accurate measurements.



#### D. Object:

1. The object that should be used in the challenge is a **standard 3oz size paper cup**.
2. In every game, 5 objects must be placed at the specified dark brown placement spots.
3. The object placements spots are randomly being chosen based on the numbering at the dark brown placement spots. The spots will be revealed just before the game.

#### E. Specification of Robot:

1. The dimension of the robot shall not exceed 15cm (length) x 15cm (width).  
Participants must show that the robot can fit in the start box before starting every game.
2. There are no restrictions in terms of height and weight.
3. The robot must be autonomous with a start button located on the robot's body.
4. The robot cannot expand in size during the game.
5. The robot must NOT be equipped with any parts that might damage or deface the ring.
6. The robot must NOT be equipped with a device that can release liquid, powder, or gas.

7. The robot must NOT be equipped with detachable parts or a firing or throwing device.
8. The robot must NOT cause danger to the operator and audience.

#### **F. Rules:**

1. The time limit of one game session is one (1) minute. This does not include the setup time.
2. Prior to the start of the game, the operator must place his/her robot in the start box.
3. To begin the game, the operator must signal the referee and then press the start button on the robot and, at the same time, start the game timer.
4. The robot should be designed to begin action five (5) seconds after pressing the start button. During this five second delay, the operator must clear out of the ring.
5. The game will end when the robot has successfully pushed all the objects out of the ring or the time limit of one minute is reached, whichever comes first.
6. The game will also end if the entire part of the robot is out of the ring. Only the number of objects successfully pushed out will then be recorded.
7. The time taken to push all the objects out of the ring, or the number of objects successfully pushed out within one minute or before the robot went out will be recorded.

#### **G. Deciding the Winner**

1. Every team will be given three trial slots that will be scheduled after the registration period closes.

2. The overall performance of the team will be the average time and objects achieved in two best trials.
3. Winner will be decided based on the fastest time and the highest number of objects successfully pushed.

#### **H. Violation and Disqualification:**

1. Participant is not allowed to touch the robot or enter the ring during the game.
2. If robot begins action before the start signal or before the five-second delay, warning will be given and restart will be required. There will be no second warning.
3. Robot that does not meet the specification will result in disqualification.
4. Team is required to join 5 minutes before the scheduled trial time. Failure to do so will result in disqualification.

#### **I. Others:**

1. It is expected for all teams to compete fairly. Any team that deliberately cheats, causes interference to others or causes damage to the facilities will be disqualified.
2. The organizer reserves the right to amend the Rules & Regulations without giving prior notification or any reasons thereof.
3. Any decisions made by the judges and the organizers are final.

