

REGULATIONS

On Conducting the “Water Robot” Competition within the Future Engineering Festival and Determining the Winners

GENERAL RULES

- 1.1. This Regulation establishes the procedure for organizing and conducting the “Water Robot” competition among youth, involving robots operating in aquatic environments.
- 1.2. The competition is aimed at developing the field of robotics and enhancing young people’s engineering and innovative thinking skills.
- 1.3. Formation of real-time control, navigation, and manipulation skills using remotely controlled water robots.
- 1.4. Participants in the practical competition may include: Ministry of Higher Education, Science, and Innovation, Innovation Development Agency, Youth Affairs Agency, higher education institutions, research institutes, military units, enterprises, organizations, and institutions.

MAIN OBJECTIVES OF THE COMPETITION

- 2.1. Increase young people’s interest in designing, programming, and applying remotely controlled water robot systems in practice.
- 2.2. Identify and support talented youth, engaging them in scientific and technical activities.
- 2.3. Encourage innovative ideas and technological developments in the field of water robotics.

COMPETITION PROCEDURE

- 3.1. The competition consists of three stages: preparation, main, and final.
- 3.2. During the preparation stage, participants place their robots into an artificial water pool (3 m × 2 m × 0.84 m). The Panel of Judges awards points based on the robot’s technical capabilities, speed of movement, and operational accuracy in water.
- 3.3. During the main stage, each participant is given 5 minutes. The first participant to complete the assigned task receives an additional 10 points.
- 3.4. Based on the results of the main stage, the 5 participants with the highest scores

advance to the final stage.

3.5. In the final stage, participants who first collect all markers at the designated point in the shortest time take 1st, 2nd, and 3rd prize places.

TECHNICAL REQUIREMENTS FOR THE ROBOT

4.1. Robots must be equipped with a video camera, and participants must be able to control the robot through video goggles or a display.

4.2. Dimensions:

Length ≤ 50 cm, width ≤ 50 cm, height ≤ 50 cm

Maximum weight ≤ 25 kg

4.3. Sensors and functionality:

The robot must be able to move the marker and deliver it to the designated location.

Required navigation tools: camera, depth or orientation sensor

A manipulator may be included (for object handling).

4.4. Materials:

The robot's body must be water-resistant.

Safe materials: plastic, aluminum, composite.

4.5. Power source:

Robots must operate on water-safe batteries or accumulators (Li-ion, NiMH).

Maximum voltage ≤ 24 V

PANEL OF JUDGES

5.1. The Panel of Judges is formed by the Organizing Committee and monitors compliance with the rules throughout the competition.

5.2. The Panel of Judges performs the following functions:

Ensuring compliance with the rules

Making final decisions in disputed cases

Assessing participants' compliance with technical requirements

5.3. The decision of the Panel of Judges is final and not subject to review.

EVALUATION CRITERIA AND AWARDING WINNERS

6.1. Participants must collect markers within the allotted time. Each marker is awarded 10 points.

6.2. If the robot fails to deliver a marker to the designated location, no points are awarded.

6.3. If the robot malfunctions while performing the task, 10 points are deducted.

6.4. Winners are awarded by the Organizer as follows:

1st place: certificate of honor and valuable prize

2nd place: certificate of honor and valuable prize

3rd place: certificate of honor and valuable prize

ADDITIONAL RULES

7.1. Special rules and the competition regulations are published on the official website.

7.2. The Organizing Committee has the right to make amendments to the competition regulations.

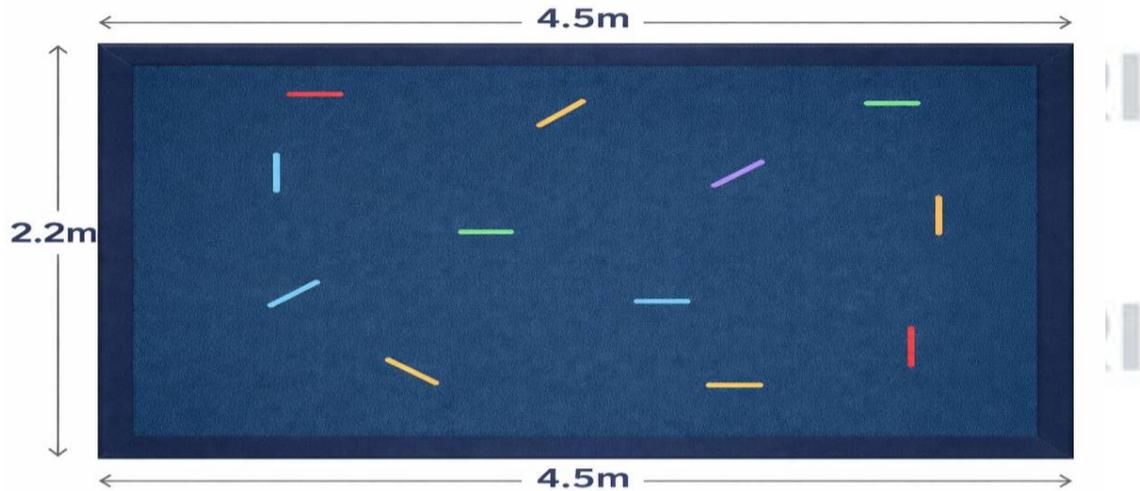
7.3. In cases not covered by this Regulation, the decision of the Organizing Committee is binding.

Each participant is given 5 minutes to complete the task.

Robot dimensions: length ≤ 1 m, width ≤ 0.6 m, height ≤ 0.5 m.

Maximum weight ≤ 25 kg.

Game field (international standard) dimensions: $4.5 \times 2.2 \times 0.83$ m.



This regulation may be amended no later than 30 days prior to the start of the competition. Any updated version will be provided to all registered participants.

KELAJAK
MUHANDISLARI

KELAJAK
MUHANDISLARI

KELAJAK
MUHANDISLARI