

* Please be aware that this is provisional version of the rules, there may be some changes.

Specially testing material of size and weight is till on progress, but still there will be new updates



1. Game description

In order to understand and use the object, organizer will assign the given theme that participant can understand and acknowledge the scientific and technologic of robot which is described as this game. In a limited situation referee will tested their imaginative and creativity to construct the robot in general technology in order to solve the problem.

2. Robot

2-1. Before entering the construction zone at start of the competition, each team will be informed about the set of items, tools, actuators, and sensors that they will be allowed to use.

2-2. Continuous Revolution Motors

It can be use maximum four motors; IROC will announce how many motors exactly you can use for the mission on the match day.

2-3. Servo Motors

It can be use maximum six motors; IROC will announce how many motors exactly you can use for the mission on the match day.

2-4. Encoder Motors

It can be use maximum two motors; IROC will announce how many motors exactly you can use for the mission on the match day.

2-5. Stepping Motors

It can be use maximum two motors; IROC will announce how many motors exactly you can use for the mission on the match day.

2-6. IR sensors

It can be use maximum eight sensors; IROC will announce how many sensors exactly you can use for the mission on the match day. (Sensor must be attached to the main board and if the sensor is not needed, block it with black tape)

2-7. Ultra-sound sensors

It can be use maximum four sensors; IROC will announce how many sensors exactly you can use for the mission on the match day.



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3. Competition Site

- 3-1. The composition and dimensions of the playing field depend on the exact challenge that students must solve.
- 3-2. During the construction phase, each team can request access to the competition site to test their robot.
 - 3-2-1. many competition sites can be fixed due to number of participants teams and follow theme, in order to fix the schedule each team will be assigned in the competition sites.
 - 3-2-2. each referee of competition sites, they need to give clearly instruction to participants about give themes and game limitation.
 - 3-2-3. Competition and Rehearsal Time is decided by given mission it will be announce in the competition site.

4. Competition

- 4-1. The robot mission challenge event starts with the construction phase.
During the construction phase participants will enter the construction zone with a set of allowed items and tools.
- 4-2. the competition will start with the referee giving a description of the challenge theme.
 - 4-2-1. For example: Build a robot that can carry a 500g weight for 1m, can dive and pick up the following treasure from the bottom of the water pool, can climb over a 1m tall wall.
- 4-3. the referee will also give a description of the scoring formula used for this event.
 - 4-3-1. Example: The robot must carry three metal balls across the water as quickly as possible. If a robot loses a ball, then a 60 second penalty will be added to the time.
 - 4-3-2. Standard of scoring system is timekeeping, distance record and the number of moving target is based on quantitative standard, in some special occasion it might included a knock-out competition or even a subjective evaluation.
- 4-4. the referee will also announce any special restrictions or rules that may be in effect during the event.
 - 4-4-1. Example: Participants must use more than three rubber bands.
- 4-5. the referee will also announce duration of the construction phase.

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4-5-1. the duration of the construction phase is usually three hours and duration may be different for a specific event.

4-6. Participants can use general material that is not related to robot

4-6-1. For Ex) Paper, chopstick, paper cup, paper dish, wooden stick, Styrofoam and coating paper, plastic cup, plastic dish, clip, pen, a rubber band, tape, cable tie, hairclip, needle, Strap and Rope etc.

4-7. Participants need to prepare general tool and items to use in competition and special tool and items might cause safety and security reasons so it might be restrict to use in site.

4-7-1. Examples of special tool like scissors, knife, driver, stapler, hammer, pincer and glue etc.

4-8. Tools and item that need authorized and in order to use it the representative of team must get an approval to organizer.

5. Violations and Disqualifications

5-1. only team members are allowed to enter the construction zone or the playing field during the competition.

5-2. Team members are not allowed to leave the construction zone or the playing field without prior permission from the referee and volunteer.

5-3. any team whose members or associates violate rule will be disqualified.

5-4. any team whose members use unauthorized tools and items will get penalty by organizer and referee.

5-4-1. the sanctions imposed by the referee include time or points penalties (for example, the final score is reduced by 30%), or in serious cases may also lead to disqualification of a team.

5-4-2. the severity of the penalty is decided on the sole discretion of the referee.

5-5. any team cannot modify and check the robot in competition except construction and testing time, if it not followed they will get disqualified.

6. Scoring

6-1. At the end of the construction phase, all teams must finish building their robot and bring it to the playing field.

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6-2. At that time, the referee will test the performance of the robot and will calculate the resulting score given the scoring formula.

6-3. 1st, 2nd, 3rd, awards will be awarded based on the point score.

6-4. Tie Breakers: The scoring formula for the specific event will describe the methods if any that are used to break ties.

For Example of the Mission

2014 INTERNATIONAL ROBOT OLYMPIAD

Mission Challenge

1. **Limitation:** It will be announced amount of quantity that can be used according to Theme in the competition days.

-limited items

Items	Quantity
DC Motor	
Servo Motor	
IR Sensors	
Touch Sensors	
Ultra-sound Sensors	
LEDS	

-extra limitation

2. **Performance**

3. **Mission Training Method**

4. **Size of Robot (Weight and height etc)**

5. **Scoring Standard and Mission Evaluation Items**

6. **Time:** Minutes

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