



## The Contest

The Headstart School Robotics Competition 2022 is for the students from any registered school or university of Pakistan.

### THEME OF THE COMPETITION:

- **Drop the ball in the bucket**

The Robot will be fully autonomous that will start from the starting line which is **6 inches** away from the edges of the floor arena. A ping pong ball will be pre-loaded in the robot. The robot can either follow the line or use hard code to reach the first checkpoint. The robot will drop the ball in a box of **8 x 8 inches** wide and **6 inches** high. The robot will then reach the shaded area of **1x1ft**. The robot that will reach first will be the winner.

### 1. Rules of the Contest

- The robot must be completely autonomous once the operator starts it.
- There are no limits on the weight of the robot.
- In addition there are no restrictions on the sensors used by the contestants. The robot can also touch the lines on the ground in order to detect them; however it must not at any point damage the track. If the track gets damaged then the robot will be dis-qualified.
- There are no restrictions in using readymade kits and modules, although effort put on making the robot is taken into account while judging the robot by the jury.
- Any technique may be employed to run through the track.
- Points will be given on crossing every check point.
- Maximum two retries are allowed.
- If any robot stops working or if there is a technical fault, then it should be picked up by one of the team members and restart from the start point, as preferred by the team members, this will be counted as a retry.
- Picking the robot at any check point will be counted as a penalty i.e. deduction in marks.
- The jury may stop any robot at any time if they feel that it is performing or about to perform any action that is dangerous or hazardous to people or setup.
- Teams will be given 1 minute for setting up the robot at the start point.
- Robot can start at the instant when the start signal is given and a whistle is blown.



- Once the robot moves, team members will not be allowed to touch the robot or enter in the contest arena.
- Time will start once the start signal is given and the whistle is blown.
- Time duration for robots is 5 minutes.

## 2. Testing Round

Each team will test its robot separately in the practice session on 11<sup>th</sup> March, 2022.

## 3. Finale

The team that finishes the track in less time by crossing all the checkpoints will be declared the winning team of HSRC 2022.

## 4. Game Arena Specifications

- Field Dimensions: 7ft x 11 ft. (leaving 1ft distance from the edges)
- The width of the white line is 3cm.
- The field is made up of fine quality panaflex sheet / wooden panels.
- All dimensions are taken from the center of the whiteline.

- **Robot Dimensions:**

- a) 30 x 30 cm
- b) There are no restrictions on the weight or height of the robot.

- **Robot Specifications:**

- a) Lego Mindstorm Kits (NXT or EV3)

## 1. Safety Guidelines

- Robots must be designed in a way that they must not in any aspect be harmful /dangerous.
- Robots should not contain any sharp edges to avoid any mishap during the contest.
- Teams are encouraged to use any sensor to fulfill the requirement of the robot.

## 2. Disqualifications

The team is considered disqualified if it commits any of the following:

- The team performs any act that is not in the spirit of fair play.
- The team fails to obey instructions/warnings issued by the match referee.
- The team tries to damage the arena, facilities, equipment or the opponent robots.
- If the robot exceeds the mentioned dimensions.

## 3. Participation details



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- A maximum of 6 members per team are allowed.
- Students from different universities and schools can participate in the contest.

#### **4. Contact Us / Feedback & Suggestions**

For further queries please contact:

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