
ROBO
KABADDI
THE CLASH OF METAL AND MIGHT
– ROBOTIC KABADDI LEAGUE
RED
04
TIME
03
BLUE
14:12
RC KABADDI LEAGUE
ROBOTICS HUB
TECHARENA
RAIDER 87
Shetty
Institute of Technology

# "Robo Kabaddi"

## 1. Overview

The Robo Kabaddi Challenge is an action-packed robotic sport combining traditional agility, strategy, and engineering mastery. Two teams face off on a custom-marked arena, attempting to raid the opponent's territory, secure target payloads (boxes), and successfully defend their own zones. The primary objective is to strategically retrieve all target boxes from the opponent's base while defending against incoming raids.

## 2. Bot Specifications

All participating robots must adhere strictly to the following technical parameters before entering the arena:

- **Dimensions:** The robot must fit entirely within a maximum footprint of 30cm x 30cm (Length × Width) at any time during the match. Height is unconstrained unless restricted by safety guidelines.
- **Weight Limit**: The maximum total weight of the robot must not exceed 7 kg (including all mechanisms, attachments, and power supply).
- **Power & Battery:** There are no specific battery restrictions. Teams are free to use any battery type, voltage level, or capacity, provided it is housed safely and does not pose a fire or leak hazard.
- **Custom Construction:** Robots must be custom-designed and built by the participating teams. Fully pre-assembled or commercially bought ready-made robots are strictly prohibited.

## 3. Arena Specifications

- **Court Dimensions:** The arena measures 10 ft × 20 ft, enclosed height clearance.
- **Surface Type**: The playing field may consist of a mat, banner-coated floor, or a mat-free ground.
- **Boundary & Marking:** The court boundaries, mid-line (Baulk/Lobby lines), and target box zones must be clearly defined using high-visibility tape or non-removable paint.

## 4. Game Play & Rules

### 4.1 Team & Setup

- Each match features 2 opposing teams, with 01 robots per team active on the court.
- Payload Setup: 6 target boxes are placed inside a designated box zone on each side of the court.

### 4.2 Match Dynamics

#### A. Arena Line Markings

The 10ft x 20ft court is divided into two equal halves by the Mid-Line 10ft mark) and contains three key tactical lines in each half:

- **Baulk Line (Work Line):** Located 5ft past the mid-line. A Raider Bot must cross this line to make a raid valid.
- **Bonus Line:** Located 7.5 ft past the mid-line (closer to the end line).
- **Lobby Lines:** Side strips along both lateral boundaries.
- **End Line:** The rear border of each team's half.

#### B. Target Box Values & Placement

Each side holds 5 Target Boxes distributed across two zones:

- Work Zone (Between Baulk Line & Bonus Line): Holds 3 Standard Boxes worth 10 Points each.
- Bonus Zone (Between Bonus Line & End Line): Holds 3 High-Value Boxes worth 20 Points each.

#### C. Raid Rules & Gameplay Mechanics

**i. Mandatory Line Crossing (Valid Raid)**

- Before touching any target box or engaging opponent defender bots, the Raider Bot must completely cross the Baulk Line (Work Line) with **at least one wheel/part touching ground past the line.**
- If a Raider Bot attempts to grab a box or make contact with defenders before legally crossing the Baulk Line, the raid is declared invalid, and **-5 points are awarded.**

**ii. Lobby & Boundary Out-of-Bounds Rules**

- **Before Contact:** The Lobby strips are out-of-bounds. If a Raider Bot or Defender Bot enters or touches the Lobby Line/Out-of-Bounds area before a target box is touched or defender contact is made, it is declared **"Out" and -5 points are awarded.**
- **Lobby Activation:** Once a Raider Bot touches a target box OR makes physical contact with a Defender Bot, the Lobby area becomes active and legal to cross.
- **Lobby Line Penalty (10 Points):** If any Raider or Defender Bot completely steps/drives out of the playing area during an active raid, 10 Penalty Points are awarded to the opposing team.
- **Box Displacement Penalty (10 Points):** If a bot pushes, knocks, or drives a Target Box completely outside the arena boundaries, 10 Points are awarded to the opponent team, and that box is removed from active play.

**iii. Raid Execution & Defense**

- **Bot as a Raider :** Crosses the mid-line, secures 1 Target Box at a time, and attempts to cross back over the mid-line into its home court.
- **Bot as a Defenders :** The opponent's bot act as defender to physically block, hold (20 Sec), or pin the Raider Bot, preventing it from carrying the box back across the mid-line.
- **End Line Protection:** Raiders cannot cross or retreat beyond the opponent's End Line. Passing over the End Line results in the Raider being declared "Out," awarding 10 points to the defending team.

**iv. Turn Alternation**

- Raids alternate strictly turn-by-turn **(Team A Raids rightarrow -> Team B Raids).**
- A single raid has a maximum time limit of 30 seconds.

**4.3 Scoring & Victory Conditions**

- **Box Retrieval Points:** Points (10 or 20) are awarded only when the Raider Bot successfully carries the respective box across the mid-line to its home side.
- **Out / Penalty Points:** 10 Points awarded for opponent out-of-bounds violations or box boundary knockouts.
- **Winner Determination:** The team with the highest cumulative points (from box retrievals + penalty points) after all boxes are retrieved or match time expires wins the match. If tied, the team with the lower total raid completion time wins.

**5. Competition Structure & Officials**

- **Referee Authority:** The Referee holds full and final authority over match management, rule enforcement, and timing. Referee decisions on match incidents are absolute.
- **Assistant Referee:** Assists the main referee in tracking arena boundary lines, timing, box positioning, and fouls.
- **Bot Handlers & Captain:** Each team must designate 1 Captain (to communicate with officials) and designated Bot Handlers (for manual placement or authorized restarts).
- **Pre-Match Preparation:** All teams must present their bots for technical inspection and be ready at the court at least 10 minutes prior to their scheduled match.

**6. Prohibited Activities & Disqualifications**

Engaging in any of the following activities will result in penalties, loss of raid points, or immediate team disqualification:

1. **Ready-made Bots:** Are not Allowed.
2. **Unruly Behavior:** Any aggressive behavior, foul language, fighting, or unsportsmanlike conduct towards officials, opponents, or spectators.
3. **Pit Area Restrictions:** Running, horseplay, or operating hazardous/unauthorized equipment within the pit area.
4. **Property Respect:** Unauthorized touching, handling, or tampering with another team's robot, tools, or equipment without explicit permission.

**7. Prize Money & Certificate Distribution**

- The total prize and recognition **pool is ₹15,000,** split into ₹10,000 Cash Pool and ₹5,000 Equivalent Value in Official Certification & Trophies.
- **Breakdown:**
- 1st Place Winner: ₹10,000 Cash + Winner Trophy + Certificate of Excellence
- 2nd Place Runner-Up: ₹5,000 Cash + Runner-Up Trophy + Certificate of Excellence
- 3rd Place Second Runner-Up: Certificate of Excellence
- All Participants: Official Participation Certificates & Meritorious Recognition.

**Note:**

- Prior to prize disbursal, all team members must fill out and sign the official Prize Allocation Form.
- Minor rules and regulation can be changed on spot by organizers.

**8. Official Contact Details**

- **Faculty Coodinator :**

1. Mr. Sumeet Hibare - **+91 79759 79134**
2. Mr. P. Sanni Kumar **- +91 63625 27976**

- **Students Coodinator :**
- Arbaz- **+91 63646 08400**
- Swarnagowri - **+91 80507 99369**


Thank You