



ROBO RASHTRA '25

**RESOLYMPICS
RULEBOOK**



ResQlympic is a robotics competition where manual-operated robots equipped with cameras (Such as esp camera, arduino camera and mobile camera) navigate through a closed arena filled with obstacles to rescue hostages and bring them to a designated safe zone. **The game is conducted in a single round, with the operator controlling the robot from a separate room via a live camera feed.**

35,000/-

25,000/-

15,000/-

PRIZE POOL

75,000/-



ROBORASHTRA'S RESQLYMPIC



ResOlympic is a robotics competition where manual-operated robots equipped with in-built cameras navigate through a closed arena filled with obstacles to rescue hostages and bring them to a designated safe zone. **The game is conducted in a single round, with the operator controlling the robot from a separate room via a live camera feed.**

PRIZE POOL

First Winner = 35,000/-

Second Winner = 25,000/-

Third winner = 15,000/-

1. BOT SPECIFICATIONS:

1.1 Size Restrictions:

Length with wheel = 28 cm (max)

Width with wheel = 20 cm to 25 cm.

Ground clearance = 3 cm to 4 cm.

(Overall height = 25cm)

Wheel size = 10cm (diameter)

Grip = 0.5cm. (max)

Max bot weight = 2.5 kg.

Hostage Specifications:

Cube of 6 cm to 8 cm.

Weight: up to 200gm.

A margin of error of \pm 1cm is acceptable.





1.2 Manual Control Requirement:

All participating teams must use manual control for operating the robot during the competition.

1.3 Control Mechanism:

1.1 Teams must employ a wireless control mechanism. The transmitter used to control the robot must have a minimum range of 18 meters to ensure uninterrupted communication across the entire arena. For optimal performance, a recommended range of 20 meters is advised. No size restrictions for the remote-control mechanism. Only one team member is allowed to control the robot.

1.4 Control Mechanism Design:

Control mechanism must contain screen (e.g. Mobile, laptop, etc.) on which the live feed from bot is taken. The robot's control mechanism should be designed for operation by a single person.

1.5 Adherence to Specifications:

Failure to comply with any of the specified regulations will result in immediate disqualification from the competition.

1.6 Power Supply:

- The robot must rely solely on an onboard power supply, such as rechargeable batteries or power cells, and cannot rely on external power sources during the competition.
- Voltage output = upto 12V
- Safety protocols must be followed during battery recharging.





2. GAMEPLAY:

2.1 Starting Position:

- Robots will enter the arena from one of the four designated start points.
- Before the official start, participants can take a brief observation period (e.g., 2 minutes) to strategize and plan their robot's path for hostage rescue **on screen**.
- Once the game officially starts, participants cannot make further strategic decisions.

2.2 Game Duration:

The total gameplay time is 7-8 minutes.

2.3 Rescuing Hostages:

- Robots must identify and reach hostages placed in different areas of the arena.
- A rescued hostage must be securely carried by the robot and brought back to the designated rescue zone.

2.4 Obstacle Handling:

- Obstacles like sand, speed breakers, marble pit, bridge, curves, gates, boxes etc.
- Robot must navigate through obstacles without causing damage to the arena, or hostages.
- Penalties may be incurred (e.g., deduction of time or points) for any violations, including improper handling of hostages.
- Any aggressive or unsafe behavior will result in penalties (**for e.g: unnecessarily annoying and arguing with event officials**)



2.5 Emergency Stop:

- If a robot gets stuck or encounters an obstacle preventing further movement, it may be moved back to the nearest designated checkpoint by the event officials. The robot can resume its operation from that checkpoint, but no extra time will be allotted for the setback. Time will continue to run uninterrupted during this process.
- Time will not be paused during emergency stops.

2.6 Rounds:

The ResQlympics event will be held in a single day comprising two rounds.

Round 1:

Teams will present their bots to the judges.

Judges will evaluate the teams based on the specifications and features of bot.

Round 2:

The actual rescue mission will be performed in this round. The team that rescues the hostages in the shortest time with maximum efficiency will emerge as the winner.

2.7 Winners:

The participant or team with the highest total points at the end of the event will be declared the winner.





3. GAME RULES:

- Robots must adhere to size limitations and technical specifications as provided in the competition guidelines.
- The robot must be operated by a single operator who will control it remotely from a separate room. The operator will have access to a live camera feed from the robot to assist in navigation and task execution.
- Participants can choose the order of hostage rescues. Rescue operations must follow designated time limits.
- Once a hostage is secured, the robot must safely transport them to predefined safe zones within the arena.
- Safety protocols must be followed at all times to prevent harm to participants, spectators, or the equipment.
- All robots and control mechanisms will undergo compliance checks before the challenge begins.
- Judges' decisions regarding scores, compliance, and rules are final and binding.
- Failure to comply with the rules or any unsportsmanlike conduct will lead to immediate disqualification.

NOTE: The rules outlined in this rulebook are subject to change. Any modifications or updates to the rules will be communicated to all participating members prior to the start of the event.

