Event: - Pick And Place

Pick & Place competitions require autonomous or manual robots, typically sized (30cm×30cm×30cm) and weighing 5kg to navigate obstacle-filled tracks and transfer objects. Key rules include using non-destructive, sub-12V power sources, avoiding track damage, and following strict time limits with limited hand-touch penalties.

General Guidelines & Specifications

- **Team composition:** Maximum four members. One team can submit only one robot.
- **Robot Specifications:**
    - **Dimensions:** Usually, robots must fit within a 30cm×30cm×40cm box.
    - **Weight:** Typically under 5kg, with 5% tolerance allowed.
    - **Power Supply:** On-board power sources (batteries) must not exceed 12V DC, and they must be sealed/dry cells.
    - **Control:** Either autonomous (Arduino-based) or manual (wireless, such as Bluetooth or RF).
    - **Material:** Cannot use ready-made kits like Lego; must be custom-assembled.

Arena Rules

- **Arena:** Features include speed breakers, ramps, sandpits, and moving surfaces.
- **Gameplay:** Time-trial based, with the fastest time winning.
- **Penalties:** Usually, 3-5 "hand touches" are allowed, but incur time penalties or require returning to the last checkpoint.

- **Movement:** The robot must be able to move in all directions.

Pick & Place Specifications

- **Task:** Pick objects from a designated area and place them in another without damaging them.The placement of objects may be specified or randomized.

- **Mechanism:** Grippers must be designed to hold specific objects (e.g., blocks).

- **Approach:** Programmed waypoints for lifting, moving, and dropping objects.

Disqualification Criteria

- Exceeding size or weight limits.

- Intentionally damaging the arena.

- Pulling the wire (for wired bots) to aid movement.

- Interfering with other robots.

Event Co-Ordinator
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