

PRODYOGIKI '19

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Gear up for one of the most-awaited events of Proyogiki 2019 as the bots are ready to race it out! But the road to the finish won't be all that easy. Teams will manoeuvre their bots across a path full of tricky obstacles while also moving blocks around to clear their path. The team that completes the race in the fastest time will be judged the winner! The team has to build a manually controlled robot which can do simple tasks of gripping blocks and putting them in different places so that it can complete the route by overcoming the obstacles in its path.

GAMEPLAY:

- The bot must start from the 'START' mark
- The bot has to arrive at 'Checkpoint A' by avoiding the obstacles in between while carrying 'Block 1'
- The bot has to put '**Block 1**' in the '**Deposit Zone 1**' and hit the rod to remove support for the inclined plank.
- The bot has to arrive at the '**Checkpoint B**' after crossing the '**Deposit Zone 1**'.
- After that, it has to pick up the '**Block 2**' and arrive at the '**Checkpoint C**' along with the block. If the block gets dropped while coming down from the ramp, it will have to go again to 'Checkpoint B'.
- The '**Block 2**' has to be placed in the '**Deposit Zone 2**'.
- After that, the bot has to pick up the '**Block 3**' and place it in the '**Deposit Zone 3**'. If the block gets dropped while coming down from the ramp, it has to go again to the '**Checkpoint C**'.
- Then the bot has to arrive at the '**Checkpoint D**'.
- The Bot then has to pick up the '**Block 4**' and jump from the ramp (inclination 15 degrees) and land safely in the 'Sand box'. If the Block gets dropped while landing, then again it has to go back to the '**Checkpoint D**'.
- The bot has to place the '**Block 4**' in the '**Deposit Zone 4**'.
- Then it has to cross the gate to arrive at the final '**FINISH**' mark.

BOT SPECIFICATIONS:

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- The dimensions of the bot should be less than or equal to **300 mm X 200mm X 300mm (lxbxh)** failing which the team will be **disqualified** from the competition. The bot can however extend its dimension once the run starts. An error of **(+5%/-5%)** is Permitted.
- The bot must be controlled manually.
- The dimensions of the remote are not included in the size constraint of the bot.
- Irrespective of the mechanism used, only one person will be allowed to control the bot.
- Failing to meet any of the above specifications will lead to immediate disqualification.

GAME RULES:

- The bot would be checked for safety before starting and will be disqualified if found unsafe for other participants.
- Only one team member is allowed to handle the bot. No other team member is allowed to enter the arena.
- The bot will be liable for disqualification if it causes any kind of damage to the arena.
- The bot is **not allowed to Slide the blocks** against the ground except for fine adjustments in the Deposit Zone.
- Any damage done to the blocks will lead to immediate disqualification.
- **Maximum of 6 minutes** will be given for each team.
- The arena has 3 checkpoints, In case the bot gets stuck at any place, then the block it is carrying (if any) will be repositioned at its initial position and the bot will be kept in the checkpoints corresponding to that zone. There will no penalty for this.
- The blocks which are correctly deposited in deposit zones/pushed from ramp won't be disturbed.
- The timer won't be stopped during this process.
- **In case of any disputes/discrepancies, the organizer's decision will be final and binding.**

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- **The organizers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website and notified to the registered teams.**

JUDGING:

- 30 points will be awarded for successfully crossing hurdles between the START mark and the Checkpoint A.
- 20 points will be awarded for placing the Block 1 in the Deposit Zone 1.
- 20 points will be awarded for hitting and removing the rod supporting the inclined wedge.
- The participants may voluntarily skip the above step and can move forward but in this case they will not be given the benefit of time thus scoring $T=0$ for such cases.
- 10 points will be awarded for crossing the Checkpoint B.
- 10 points will be awarded for crossing the Checkpoint C if and only if the bot is carrying the Block 2 at that particular instant.
- 20 points will be awarded for placing the Block 2 in the Deposit Zone 2 and crossing the wedge, points will be awarded only once for crossing the wedge. Points will not be awarded if the bot crosses the Wedge multiple times.
- 20 points will be awarded for placing the Block 3 in the Deposit Zone 3.
- 10 points will be awarded for crossing the Checkpoint D.
- 30 points will be awarded to Land safely in the Sand Box while holding the Block 4.
- 20 points will be awarded to keep the Block 4 in the Deposit Zone 4.
- In case bot falls/crosses the referred path then 10 points will be deducted and the bot will be placed at the previous Checkpoint corresponding to that zone.

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SCORING:

- A = Points scored
- P = Penalties
- $T = (360 - \text{Time taken in seconds})$
- Total points scored – $A + T - P$