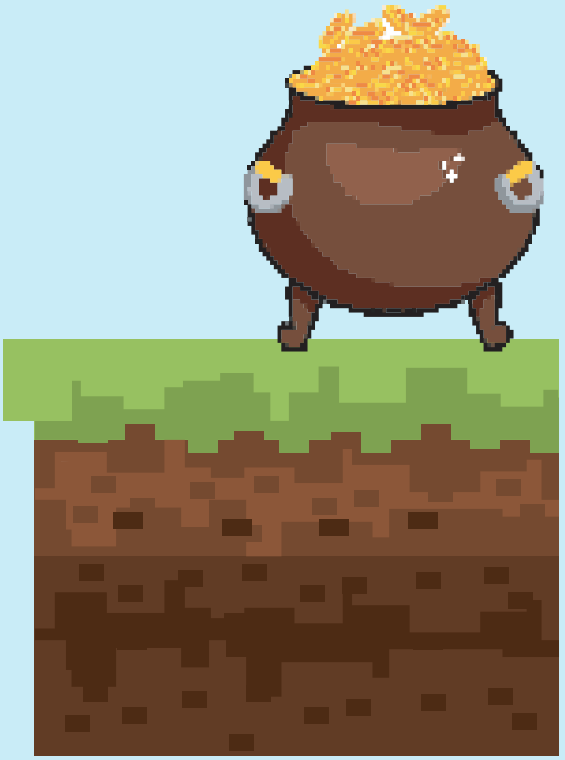
Retromania

OBJECTIVE

Teams have to build a robot which can run a track of the arena and keep track of directions while going through the arena and the bot has to complete the race from the starting point to the ending point in minimum possible time avoiding obstacles.

BOT SPECIFICATIONS

- The dimensions of the bot should be less than or equal to 300 mm X 300mm X 200mm (l x b x h) failing which the team will be disqualified from the competition (including tires).
- The bot must be controlled manually.
- The dimensions of the remote are not included in the size constraint of the bot.
- The bot must have an onboard power supply in any case.
- During the run, the bot must not damage the arena in any way. It is not allowed to leave anything behind or make any marks while traversing the arena. Any bot found damaging the arena will be immediately disqualified. The final decision is at the discretion of the organisers.
- The bot should not separate or split into two or more units. All bots/units which are touching each other or are in the starting point will be considered as one bot.
- The mechanism used should be such that only one person will control the bot.
- The Machine cannot be constructed using ready-made 'Lego kits' or any ready-made mechanism. But they can make use of readymade gear assemblies. Violating this clause will lead to the disqualification of the team.
- Failing to meet any of the above specifications will lead to immediate disqualification.



GENERAL RULES

- The bot would be checked for safety before starting and will be disqualified if found unsafe for other participants.
- The dimensions of the bot should be less than or equal to 300 mm X 300mm X 200mm (l x b x h) failing which the team will be disqualified from the competition (including tires).
- The bot will be liable for disqualification if it causes any kind of damage to the arena.
- The time measured by the organisers will be final and will be used for scoring the teams.
- Any other means is not acceptable for scoring.
- In case of any disputes/discrepancies, the organisers' decision will be final and binding.
- The organisers reserve the right 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.
- Only one team is allowed to be present during the run; other teams will have to stay outside.
- Power source will be provided by organizers.

TEAM SPECIFICATIONS

- A team may consist of 2 to maximum of 4 members.
- Only students of Shri Guru Gobind Singhji Institute of Engineering And Technology and Invited colleges can participate in the competition.

NOTE:

- **Required equipment kits will be provided by the organisers. You can also use your own upgraded components unless or until you are not violating the rules.**
- **If the components from the kit get damaged by participants, the team will be responsible and will have to pay for it.**
- **The whole kit will be taken back from teams by organisers.**

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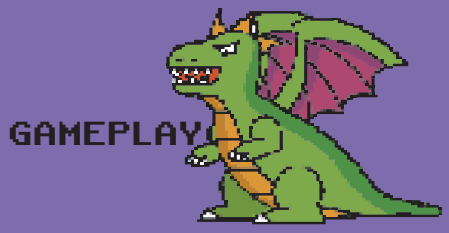

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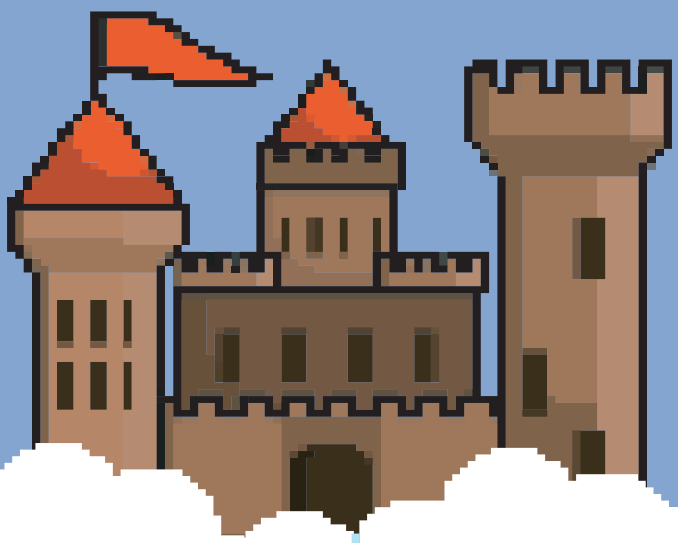
ELIGIBILITY

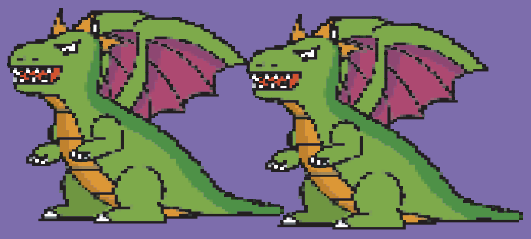
- All students with a valid identity card of invited colleges as well as Shri Guru Gobind Singhji Institute of Engineering And Technology are eligible to participate.

ARENA

★ The outer dimensions of the arena are given in the figure.
★ The width of the arena is 55 cm between the checkpoints D to E and F to G, else where it will be 40 cm.
★ The arena consists of the following:

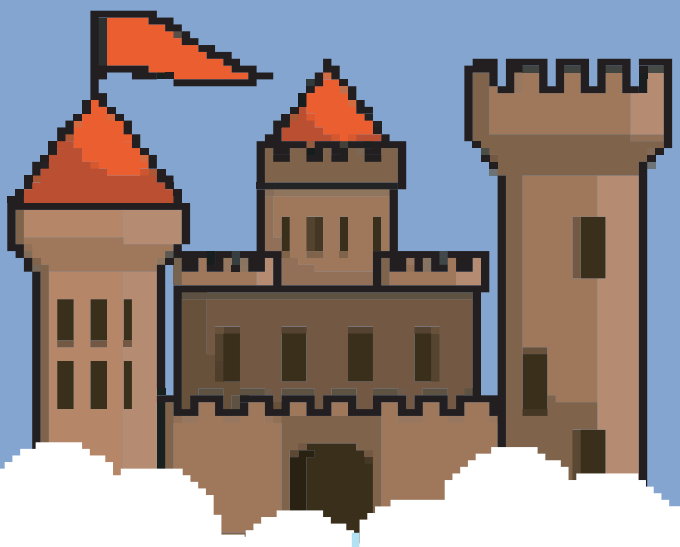
1. The railway bridge will be elevated at 20 degrees. The two rail tracks will be 7.5 cm in width.
2. The box which has to be pushed is 15 cm x 15 cm x 15cm (l x b x h). The box pit in which the box has to be pushed is 16 cm x 16 cm (l x b) and depth 15 cm.
3. The height of the green pipes is 25 cm. The diameter of the lower ring is 10 cm and the upper diameter is 12 cm.
4. The rotating disc is of diameter 60 cm.
5. The diameter of the 3 balls is 6.5 cm.





GAME PLAY

- There are a total of 11 checkpoints.
- The bot must start from the starting point marked as 'START' (FIG).
- The bot has to arrive at Checkpoint A by manoeuvring through the first obstacle:Slippery Marbles.
- The bot arrives at Checkpoint B by crossing the "See Saw".
- After checkpoint B the bot has to arrive at checkpoint C by crossing the "Rail Track".
- After checkpoint C it has a fourth obstacle: "Box Pit". The bot has to push the given box into the pit then it will move forward. Hence it will be at fourth checkpoint D.
- Checkpoint E is when the bot crosses the path with obstacles "Mario Pipes" without damaging it.
- There will be a **"Surprise Obstacles"** between the checkpoints E and F.
- After checkpoint F the bot comes across a **"Rotating Wheels"**. The bot will have to overcome the wheels in order to reach checkpoint G.
- It will reach the next checkpoint H by overcoming the next obstacle, **" Rotating Spike Rod"**.
- The Bot will reach checkpoint I by outdoing the obstacles which would be **"Bounce Thrones"**.
- The checkpoint J is after obstacle **"Robo Rollers"**.
- The last obstacle is 3 ball game. In the 3 ball game the bot has to push at least 3 balls into holes hence the gate placed infront will open, 3 gates are there connected with each ball.
- In this way the bot will arrive at END point.



ARENA