TRANSPORTER

Transportation has seen a wide range of revolution after its mystical evolution. Science and slothfulness are inextricable, yet man is so crazy and ready to put diligent effort for scientific growth. Tathva 2015 brings the place to redeem yoursel. Be lazy, think crazy and create shortcuts to be the best in the arena. Remember speed matters, face the light and fight to be the best transporter.

PROBLEM STATEMENT

Round 1: The participating team has to build a manual robot that can do the following tasks in specified time.

Task 1: The robot has to pick four cylindrical blocks from one place and transport them to the other place. Number of blocks transported in a single run is up to the contestant.

Task 2: The robot has to pick four spherical balls from one place and place them at the top of a ramp in the arena.

Task 3: The robot has to collect the spherical balls at the down of the ramp and place them in a basket travelling over an inclined path.

Note : The top scorers will be qualified for the second round. The number of qualified teams will depend upon the performance and it will be decided by the judges.

Round 2: This round also consists of three tasks.

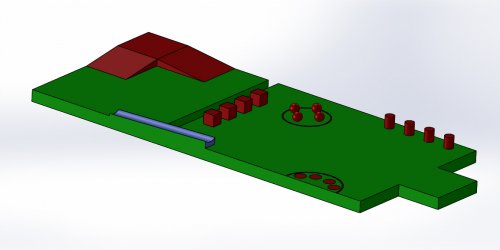
Task 1: The robot has to pick spherical balls from a rotating disc and place them on the top of a ramp.

Task 2: The robot has to pass over a pit in the arena by filling it with the cubical blocks provided.

Task 3: Robot has to pick up the spherical balls at the down of the ramp and place them in a basket travelling through an inclined path (Similar to the task 3 of Round 1).

NOTE: The actual arena may differ slightly from the arena shown above.The picture shown is just to give an overview of the problem statement.

ARENA SPECIFICATIONS

ISOMETRIC VIEW-

Arena consists of three areas:

Area 1: The robot has to start in this area which is rectangular in shape to perform the first task. The cylindrical blocks will be placed at one of the edge and the rings in which the cylindrical blocks are to be placed are on the other side of the rectangular area. This area of arena will be used only in the first round.

Area 2:The robot has to enter this area only after completing the first task. In this area there will be a disk with four spherical balls on it, and there will be ramp nearby on which the balls are to be placed. In the Round 1 the disk will be stationary and in the Round 2 the disk will be rotating.

Area 3: This area will be having a basket placed on the top of a slope.The robot has to reach this and place the balls in it. The balls are to be collected from the down of the ramp.

Note: The pit in round 2 will be between Area 2 and Area 3.

Objects Specs:

The Cylinder has a diameter of 8cm and height of 8 to 10cm.

The spherical ball has a diameter of 5 to 8cm.

The cubical block has maximum dimensions of 8x8x8 cm.

The maximum weight of the blocks is 100g.

The maximum height of elevation, of the ramp is 5 cm.

The area of the complete arena is 100cm x 300 cm.

ROBOT SPECIFICATIONS

The maximum dimensions of the robot are 30 x 30 x 45 cm (l x b x h).

Robots should not be constructed using ready-made Lego kits or any ready-made mechanism but use of ready-made gear assemblies is allowed. Violating this clause will lead to disqualification of the machines. Judges hold the right to subjectively evaluate this clause.

The Robot can use an externally placed or on-board electric or non-electric power supply. Use of compressors is not allowed. In case the machine is using a non-electric power supply, kindly get it approved from the organizers beforehand via email. Organizers are not responsible for inconvenience if approval is not sought.

In case of an electric power supply, the voltage at any point on the Robot must be lower than or equal to 12V throughout the game.

The Robot can be controlled manually or it can be mad semi-automatic or automatic.

In case of wired mechanism, the wire must be slack at any point of time during the game.

The total length of wire extending from the remote control to the robot must be minimum of 3 meters.

If the Robot is using an external wireless remote control, make sure that it has sufficient range and that it can control the machine well without any lag.

The operator of the Robot is not allowed to step on the arena.

PARTICIPATION

Min: 1

Max: 4