RoboGames 2010

COMPETITION DESCRIPTION – SCHOOL CATEGORY (Version 1)

1) ROBOT SPECIFICATIONS

The competing robots, should be self-navigating, and should perform the given track. Competitors may build their robots using any architecture. However, they should adhere to the following guidelines.

- All robot devices should conform to maximum dimensions of 250mm (Length) X 180 mm (Width) X 200 mm (Height), including all accessories.
- Robot should be provided with a start switch for the handler to commence the contest. The robots should perform the task fully-autonomously. Once the robot is switched on, any human interaction with the robot is not allowed.
- The use of external power is also not allowed.

2) ENVIRONMENT SPECIFICATIONS

The work space is a 1.5mx1.5m flat area. Inside the work space is a smooth white background surface where there is a curved path which is a black line of width 3cm towards a treasure (the goal) which is a black circle.

TASK

General

The task of the robot is to navigate on the area detecting the black line and should move to the treasure within the minimum possible time. Treasure location is a black circle of 6cm radii. Sample top view of the track is given in figure 1.

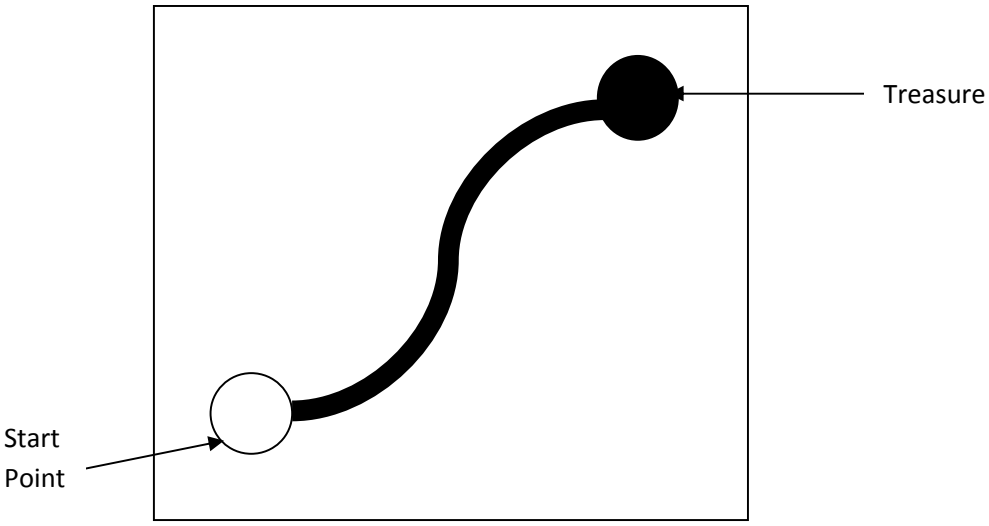
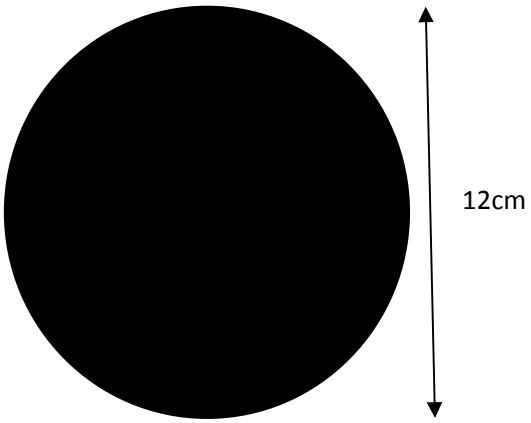


Figure 1: Top view of a sample arena

Dimensions -

Path

Goal (Treasure Location)



Task completion and finishing

Robot should navigate through the arena following the line to the treasure within the minimum possible time. Robot should blink an indicator light to show the task completion when successfully detect the treasure.