



eYRC 2020-21: Nirikshak Bot (NB)

[1] Introduction

[Last Updated on: **28th December 2020, 23:00 Hrs**]

Quality Assurance has always been an integral part of any Industry. We are in the Industry 4.0 era and Quality Assurance is of paramount importance. Since mass manufacturing has been a key focus of many industries to meet the demands of a growing population, QA benefits both the company and the customer.

Quality Assurance allows industries to reduce defects in their product thereby improving their brand image in the minds of the customers. Standards such as [ISO 9000](#) family allow industries to meet these criteria. These also ensure that the industry develops reliable and safe products for the customer.

Robots achieve all this and more with high precision and accuracy. Their use drastically improves the speed of the entire manufacturing chain thereby increasing the profitability per product. We emulate the same scenario in eYRC 2020-21 by introducing the Theme **Nirikshak (निरीक्षक) Bot** (Inspector Bot) to determine the quality of a Ball Balancing Platform being manufactured.

The Theme is set in an industry manufacturing ball balancing platforms. A maze is attached on top of it. A conveyor belt keeps dropping balls at regular intervals on the ball balancing platform. The goal is to make the balls traverse through the maze on defined paths within a stipulated amount of time in order to determine the quality of the platform manufactured.

The critical factor is time and the challenge is to complete the given tasks in the shortest possible time whilst incurring least penalties. The teams that perform the task best in accordance with the rules will be declared the WINNER of the competition.

Learning Outcomes: Image Processing, Control Systems, Algorithm Building, Robotic Simulation, Python programming and Lua programming.

Welcome to NB theme!

Rulebook

- [1] Introduction
- [2] Theme Description
- [3] Arena
- [4] Software Specifications
- [5] Theme Rules
- [6] Judging and Scoring System
- [7] Important Notes

Task 0

Task 1

Task 2

Task 3

Task 4

Task 5

Git and GitHub

Live Session 1 - 24th October 2020

Live Session 2 - 21st November 2020

Live Session 3 - 12th December 2020

Live Session 4 - 10th January 2021

Changelog



ALL THE BEST!!