SAEINDIA SOUTHERN SECTION

SAEINDIA AUTOMOTIVE MANUFACTURING CHALLENGE 2015

MOBILE ROBOTICS Challenge - JUST DO IT

Engineers have to bring on solutions in accordance with constraints. This event concentrates on bringing in optimized solution with given parameters

REQUIRED SKILLS:

- ✖ Basic microcontroller programming
- ✖ Selection procedure of drives and sensors
- ✖ Problem analyser and quick solution providing capability

SCENERIO:

- Given sequence of factory shop floor where components with technical defects are placed in between the normal component Mobile robot has to sense the component and pick the component and place it in the rejected lot

COMPETETION:

- Analysing the situation and build the bot with required constraints and parameters to accomplish the given task

DURING THE COMPETETION:

- The team has to test the bot in the given layout
- The final bot will be judged comparing with respect to the initial design document
- Endurance and durability of the bot will taken into concern

JUDGING CRITERIA:

- Documentation
- Robot specification
- Construction
- Rules compilation
- Time
- Task optimization
- Effectiveness of the robot work
- Logic
- Simplicity of bot

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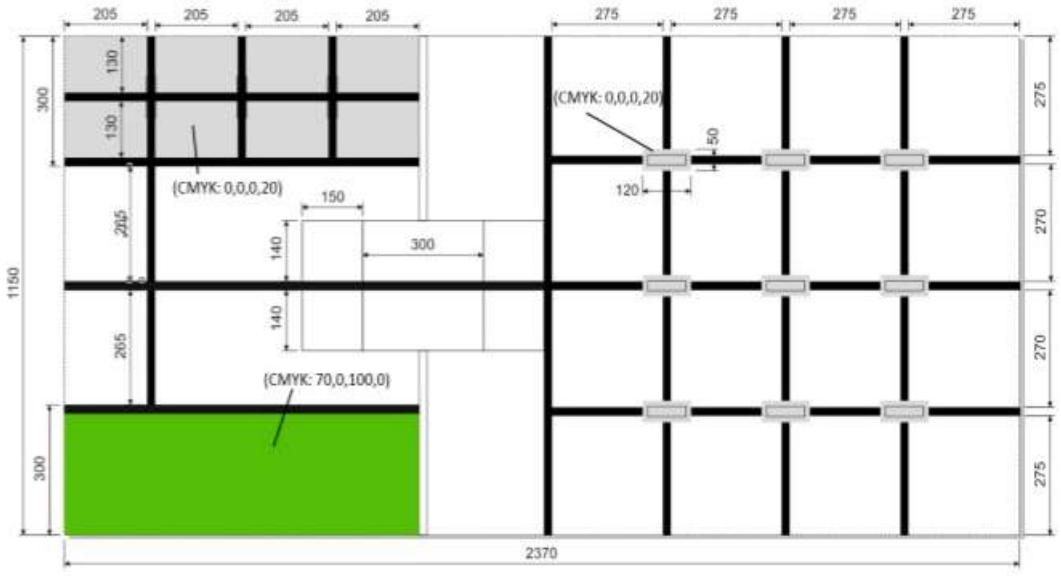
S.NO	ENGINEER	TASK	MAXIMUM NO. OF MEMBERS
1	MECHANICAL	FORMULATION AND LOGIC	4
2	EEE/ECE/EI/CS/IT	PROGRAMMING	4
		DRIVE AND SENSOR SELECTION	

TEAM

FACTORY LAYOUT



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DIMENIONS OF THE MAT

- Horizontal Dimensions: 2370 mm × 1150 mm.
- A wall that is 16 mm in width surrounds the table. The height of the wall is 50 mm.
- The height of the barrier between the Storage Station area and the field area is 50mm
- The table base colour is white, except for the black line, Challenge Object Areas, Warehouse, and the Base area.
- There are 9 rectangles in the Outer Space area that are 120 mm x 50 mm.
- Three intersections of the black lines in the Warehouse are the places where the good components are set at the beginning of every attempt.

SCORING

- Score will only be calculated at the end of the challenge or when time stops
- Detection of good components without disturbing ' would help to gain 10 points
- Detection of bad components would gain 20 points
- Picking up the component would gain 25 points without disturbing
- Each disturbance would cost a penalty of 25 points

- Successful completion of the mission would lead to gaining of 100 points

KNOWLEDGE ACQUIRED

- Exposure to crisis and their management
- Serves as a platform to put their theoretical analytical and logical skills into action in accordance with hands on experience