

EVENT DATE:-

Day1 -27/09/2019

Timing-11:00AM

Venue:-MBA Seminar hall (MBA Block)

Day2 -28/09/2019

Timing -09:00am

Venue:-Nescafe ground

MOTIVE OF EVENT:-

The motive is to design a wired/ wireless robot being autonomous or manually controlled machine that is capable of completing the ALL TERRAIN Arena successfully in minimum time.

Robo race event to promote innovative ideas and allow students to share their knowledge and ideas with other students

CATEGORY OF EVENT:- Technical Event

DESCRIPTION OF THE EVENT OF ROBO RACE NO OF ROUNDS:-

- MOCK QUIZ
- INNOVATION
- TIME TRIAL

DAY 1 (27/09/2019)

1. MOCK QUIZ

Round 1: Elimination round (Time based).

Questions: Basic topics from Robotics & BEE. Read & Answer: Each team will be given 15 sec for answering a single question.

Bouncing: If a Question cannot be answered correctly within time, then it is passed to the next team.

DAY 2 (28/09/2019)

2. The INNOVATION

In this round, the participant teams will be evaluated on the various innovative parameters.
Like

- **Portability:** This counts for your robot's overall portability including hardware and software. That is some part of the machine is damaged then how easily and conveniently we can change or rectify it. In the same way, whether your code is hardware specific or is compatible to other hardware of same family as well.
- **Feasibility:** This point covers overall controllability of your machine. That, it should not require a highly skilled person to run.
- **Communication technique:** This covers the communication technique used that is from how much distance we can command our robot accurately.
- **Multi- tasking:** How many task of robot is capable of performing.
- **Mode of connectivity:** robot is wired or wireless.
- **Efficiency:** It should cover maximum distance with minimum power.
- **Any extra feature:** Participants will get extra advantage in terms of points for any extra feature they add on to their robots, which judges found important.

3. TIME TRIAL

Hurdle round description: -

Design a ROBOT that has capacity to cover maximum distance in shortest possible time, challenging the hurdles and be one of the best opponents. Think your robot can overcome any obstacle-big or small in the least of time. If so get it on the track and let the game begin. And bear in mind that maximizing RPM does not make you winner but winners are those who have good presence of mind, sharpness and practice.

General rules:

- Each team can have maximum four members. Students from different institutes can form a team.
- Each member of the team must contain the identity card of his/her respected institute.
- The robot participating in the event can be wired/wireless, autonomous or manual.
- Lego kits are strictly prohibited. The robot must not be made from any ready-made kit, if found so, the team will be Disqualified.
- The Robot must be non-destructive and non-harmful to humans and the track.
- Radio systems must not cause interference to other radio-frequency users.
- The length of the wire (for wired robots) should be long enough (8 meters approx.) to cover the whole track and wire should remain slacked during the run across the track.
- Participants must arrange their own batteries.
- Use of IC engines or compressor is not allowed. All vehicles must depend only on electric motors for their motion and control.

- The Robot must not emit smoke or fire, leak, stain or soil.
- The robot should not damage the arena.
- The robot must not leave behind any of its parts during the run; else it will result in disqualification
- Unethical behaviour could lead to disqualification. Faculty-coordinators have all the rights to take final decision for any matter during the event. Judge's decision will be considered final.

Dimensions:

The following size limitations apply for each robot.

- Width - Not more than 25 centimetres
- Length - Not more than 30 centimetres
- Height - Not more than 30 centimetres
- Maximum weight must not exceed 5 kg (including battery for wirelessly controlled Robots). However, a tolerance of 5% is acceptable.

Power Source:

- Only Electrically Powered Robots are allowed in the event.
- Batteries must be sealed, immobilized electrolyte type (gel cell, lithium, NiCad, or dry cells).
- The electric voltage anywhere in the machine should not be more than 12V DC at any point of time.
- Battery can be placed on the robot or can be carried in hand by the robot operator in case of wireless robot.

Construction:

Any robotic parts/building material can be used until the robot meets the above specifications and if the design and construction are primarily the original work of the team as ready-made robots are not allowed to compete in the competition.

Track description:

- 1) Track dimensions' area is 10mX10m (track width-35cm).

- 2) The track surface and course line may have unevenness.
- 3) There might be abrupt angles, but these will not exceed 30 degrees.
- 4) There will be certain obstacles in the race track which will try to slow down the robot.
- 5) Major changes will be notified on Instagram page (@roborace_2k19).
- 6) Arena will consist of switch gate, speed breakers, marble pit, slippery path, rotating disc, Curve ramp down, seesaw, balloon pit, slotted ramp etc.

Penalty description:

- 1) The competition is based on time trail system.
- 2) Three hand touches are allowed. The penalty of 5 seconds each hand touch after your Exhaustion of awarded 3 penalties, penalty time will be added further to overall time required by robot for completion of specified round. If your taking hand touch you have to start from last check point.
- 3) If any of the robots starts off before start up call, the counter would be restated and the machines will get a second chance. If repeated again then team will be disqualified. 4) Your robot must be ready when call is made for your team. 5) Machine must not contain any readymade.

WINNER PRIZE: -

1st Rank-15000rs/-

2nd Rank-10000rs/-

3rd Rank-5000rs/-