MIT TEXEPHYR '14 tX

CONQUERING HORIZONS

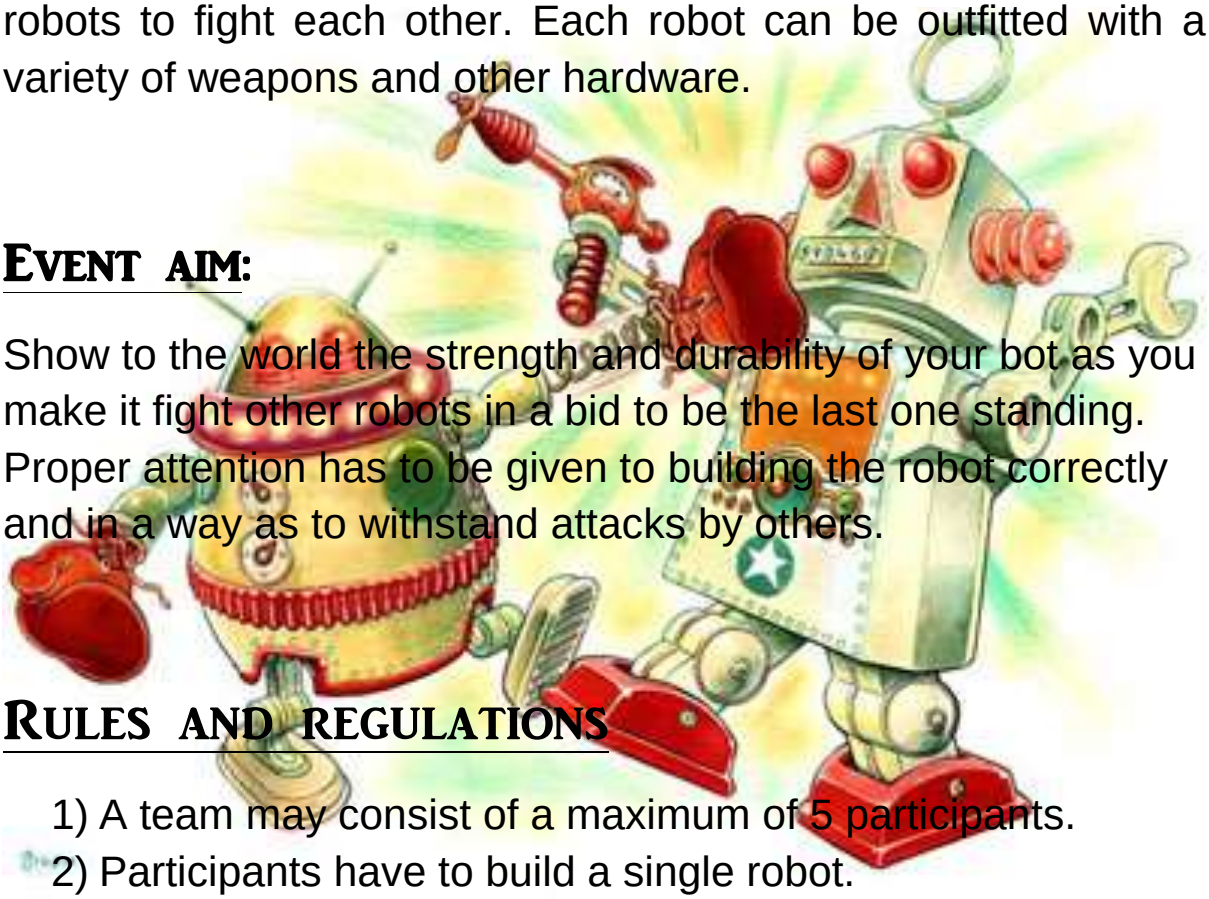
ROBOWARS

HELL IN A CELL

INTRODUCTION

RoboWar is an engaging robot battle simulation game where players can program their own robots to fight in the grand arena. Robots can be programmed to run routines in order to defeat their enemies.

The game consists of an arena where you can operate your robots to fight each other. Each robot can be outfitted with a variety of weapons and other hardware.



EVENT AIM:

Show to the world the strength and durability of your bot as you make it fight other robots in a bid to be the last one standing. Proper attention has to be given to building the robot correctly and in a way as to withstand attacks by others.

RULES AND REGULATIONS

1) A team may consist of a maximum of 5 participants.
2) Participants have to build a single robot.
3) Participants in a team can be from same or different institutes. However, no person may be a part of multiple teams for this event.
4) Robots will be tested for dimensions & safety.
5) Violation of rules will lead to disqualification of the respective team.

6) The organizers reserve the right to change any or all of the above rules as they deem fit. Change in rules, if any, will be highlighted on the website and notified to the registered participants. Participants are requested to check website regularly for updates.
7) The decision of the Judges and Organisers will be final and binding over all.
8) Safety is of utmost importance. The organisers reserve the right to disqualify any team if their robot is found to be unsafe in any way.

ROBOT SPECIFICATIONS:

DIMENSIONS AND FABRICATIONS:

1) The machine should fit in a box of dimension 750 mm x 750 mm x 1000 mm (l x b x h) at any given point during the match. The external device used to control the machine or any external tank is not included in the size constraint. Can be modified with further discussions.
2) The machine should not exceed :
   (A)50 kg for heavy weight group
   (B)20 Kg for Light weight group
   Including the weight of pneumatic source/tank. If the tank is external, its weight will be considered as 1.5 times its actual weight.
3) Weight of wireless robots and robots having on-board power supply will be counted as 0.6 times the Actual Weight.
4) Weight of adaptors and the remote controller will not be counted.
5) The Dimension of Arena is 3600 mm x 3600 mm.

Motion of Robot:

- Jumping and hopping is not allowed.
- Flying (using airfoil, helium balloons, ornithopters, etc.) is not allowed.

Control of Robot:

1) Robot can have a wired or wireless control.
2) Off board power supplies are allowed.
3) If the machine is wired then the wire should remain slack under all circumstances during the competition. All the wires coming out of the machine should be stacked as a single unit. The wires should be properly insulated.
4) In case of wireless control the case of frequency interference with other teams will not be considered for rematch or for result.

Battery and Power:

1) The machine can be powered electrically only. Use of an IC engine in any form is not allowed. On board Batteries must be sealed, immobilized-electrolyte types (such as gel cells, lithium, NiCad, NiMH, or dry cells).
2) The electric voltage between 2 points anywhere in the machine should not be more than 36V DC at any point of time. If a team is using AC voltage in any of its parts then the voltage should not exceed 36V AC at any point of time as well.
3) All efforts must be made to protect battery terminals from a direct short or a battery fire, failure to do so will result in direct disqualification.
4) Use of damaged, non-leak proof batteries may lead to disqualification.

5) Special care should be taken to protect the on-board batteries.
6) Change of battery will not be allowed during the match without any permission from organisers*.

HYDRAULICS:

1) Robot can use non-inflammable liquid to actuate hydraulic devices.
2) All hydraulic components on-board a robot must be securely mounted. Special care must be taken while mounting pump, accumulator and armour to ensure that if ruptured direct fluid streams will not escape the robot.
3) All hydraulic liquids are required to be non corrosive and your device should be leak proof. Maximum allowed pressure is 8 bars.
4) Participant must be able to indicate the used pressure with integrated or temporarily fitted pressure gauge.

PNEUMATICS:

1) Robot can use pressurized non-inflammable gases to actuate pneumatic devices. Maximum allowed outlet nozzle pressure is 8 bar. The storage tank and pressure regulators used by teams need to be certified and teams using pneumatics are required to produce the Safety and Security letters at the Registration Desk at the venue. Failing to do so will lead to direct disqualification.
2) Participants must be able to indicate the used pressure with integrated or temporarily fitted pressure gauge. Also there should be provision to check the cylinder pressure on the bot.
3) The maximum pressure in cylinder should not exceed the rated pressure at any point of time.

4) You must have a safe way of refilling the system and determining the on board pressure.
5) All pneumatic components on board a robot must be securely mounted. Care must be taken while mounting the pressure vessel and armour to ensure that if ruptured it will not escape the robot.

WEAPONS:

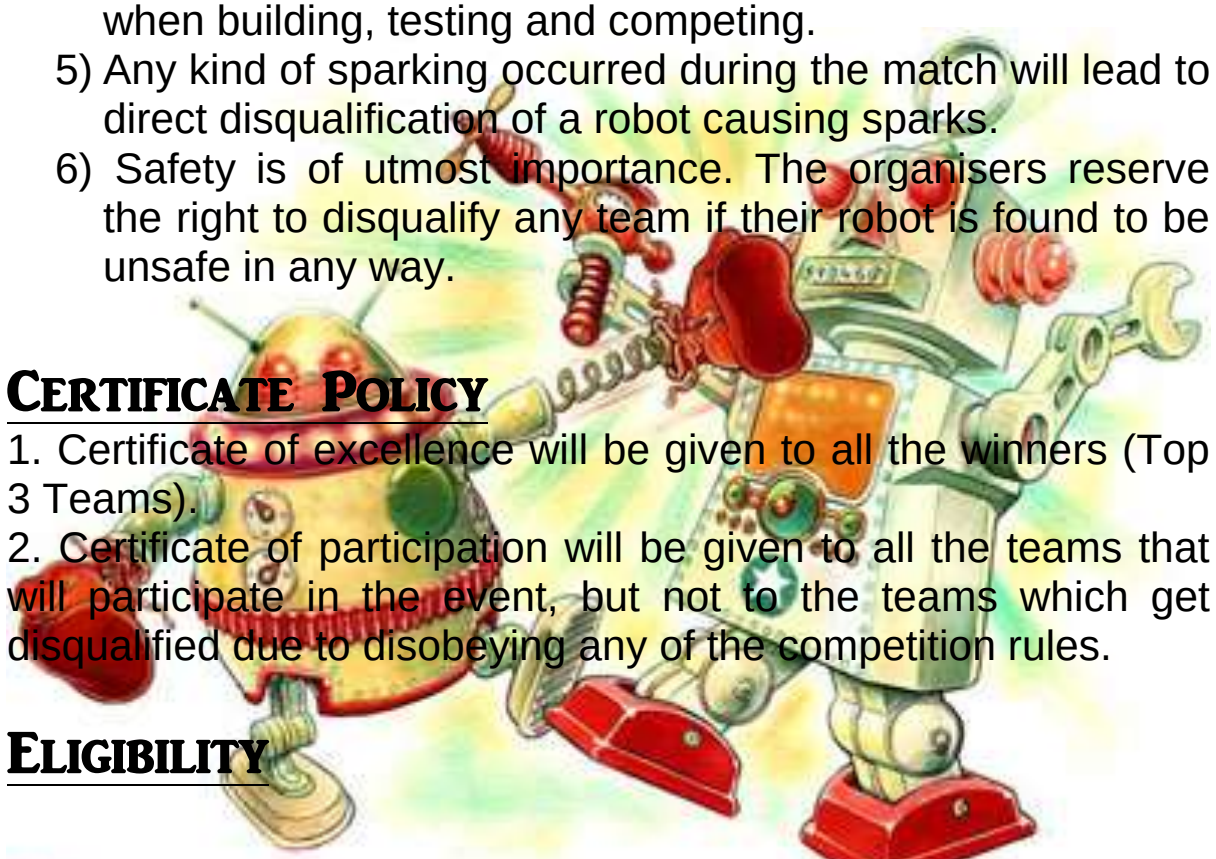
Robots can have any kind of cutters, flippers, saws, lifting devices, spinning
Hammers etc. as weapons.
However, the following are prohibited:

- Liquid projectiles.
- Any kind of inflammable liquid.
- Flame-based weapons.
- Any kind of explosive or intentionally ignited solid or potentially ignitable solid.
- Nets, tape, glue, or any other entanglement device. High power magnets or electromagnets.
- Radio jamming, tazers, tesla coils, or any other high-voltage device.
- Tethered or un-tethered projectiles.
- Spinning weapons which do not come in contact with the arena at any point of time are allowed. In any case the arena or spectators should not be damaged by any bot.

SAFETY RULES:

1) Special care should be taken to protect the on-board batteries and pneumatics, robot without proper protection will not be allowed to compete.

2) Robots must only be activated in the arena, testing areas, or with expressed consent of the event coordinators.
3) All weapons must have a safety cover on any sharp edges.
4) All participants build and operate robots at their own risk. Combat robotics is inherently dangerous. There is no amount of regulation that can encompass all the dangers involved. Please take care to not hurt yourself or others when building, testing and competing.
5) Any kind of sparking occurred during the match will lead to direct disqualification of a robot causing sparks.
6) Safety is of utmost importance. The organisers reserve the right to disqualify any team if their robot is found to be unsafe in any way.



CERTIFICATE POLICY

1. Certificate of excellence will be given to all the winners (Top 3 Teams).
2. Certificate of participation will be given to all the teams that will participate in the event, but not to the teams which get disqualified due to disobeying any of the competition rules.

ELIGIBILITY

ALL STUDENTS (PURSUING GRADUATION AND UNDERGRADUATE) WITH A VALID PHOTO-IDENTITY CARD OF THEIR RESPECTIVE EDUCATIONAL INSTITUTES ARE ELIGIBLE TO PARTICIPATE IN RALLY MANIA.

REGISTRATION DETAILS

RS 250/- FOR NON-SAE MEMBERS PER TEAM.

RS 200/- FOR SAE MEMBERS PER TEAM.

MAXIMUM TEAM MEMBERS : 5

MINIMUM TEAM MEMBERS : 2

**ATLEAST TWO PARTICIPANTS MUST SHOW THEIR SAE MEMBERSHIP CARD AT THE TIME OF REGISTRATION.

PRIZES

LIGHT WEIGHT:

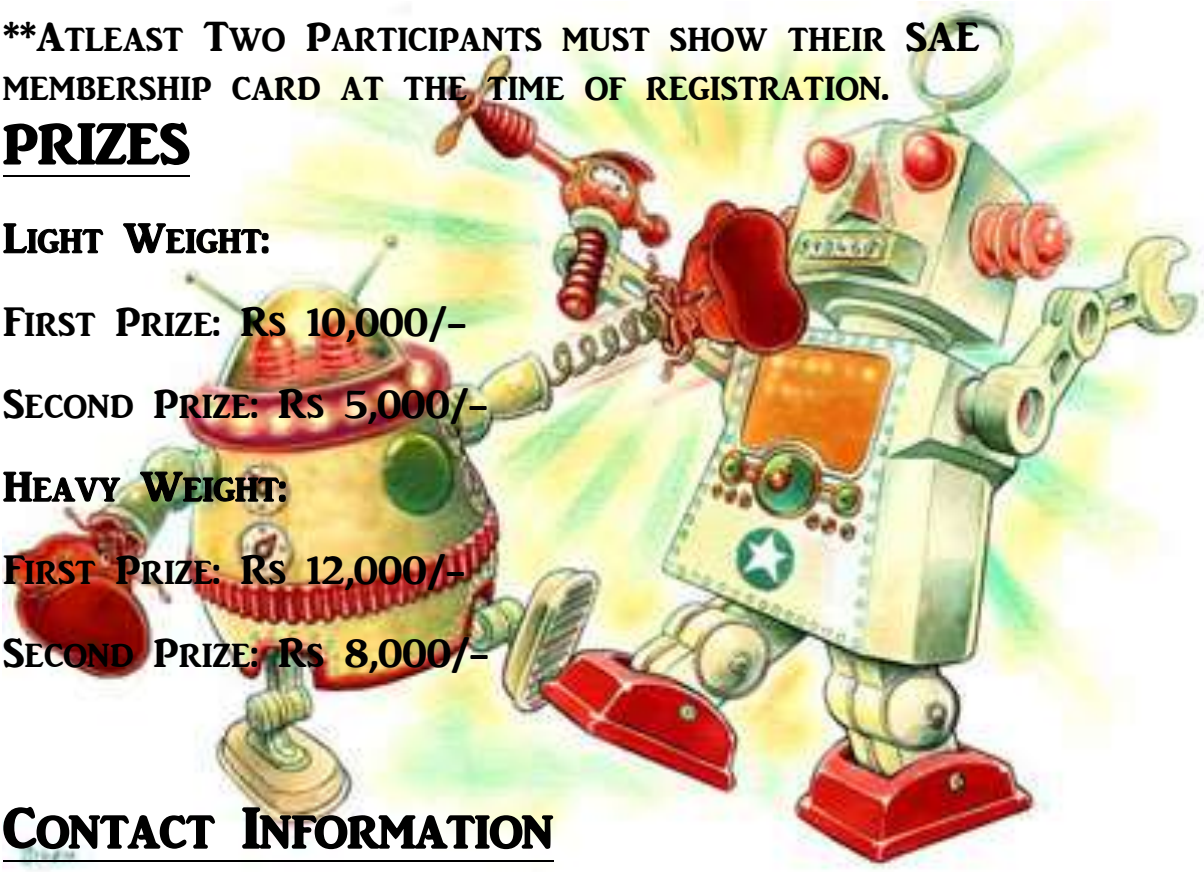
FIRST PRIZE: RS 10,000/-

SECOND PRIZE: RS 5,000/-

HEAVY WEIGHT:

FIRST PRIZE: RS 12,000/-

SECOND PRIZE: RS 8,000/-



CONTACT INFORMATION

Shailesh Tone :- +918180810815

Sagar Tayade :- +917709077788