Robowars Mini

Robowars Mini is a real-time arcade game in which two opponents would be competing with their manually operated robots with the objective of immobilizing each other. The last robot standing would be the winner.

Name of Event: **RoboWars**
Robots per Event: **Two**
Length of Event: **5 Min**
Robot Weight Range: **4 Kgs**
Robot Dimensions: **As per Rules**
Arena Specifications: **As per Center**
Robot Control: **Autonomous or Remote-control**
Engineering Principles: **Art, mechanical engineering, electrical engineering, computer science, etc**
Event Summary:

1. PROBLEM STATEMENT
Design a wired/wireless, manually controlled machine that is capable of totally overpowering its opponent .

2. GAME PROCEDURE
2.1 Each team can have maximum of five members.
2.2 During the match only two team-members will participate in   competition, one member will control the bot and other to guide .
Teams are allowed to switch members in different matches.

2.3 Setup time: Team have be pre ready with their bots .No Time will be given after the bot is on the Arena.
2.4 Match duration: 5 minutes.
2.5 Winning criteria: Team can either win by direct knockout or if the time runs out and there's no knockout or both bots are inactive, the winner will be decided by the final points (Points are based on the creativity of the Bot , the team capability and the nof attacks made by the bot.)

2.6 "A robot is declared immortal/victorious if its opponent becomes totally inactive. A robot will be declared inactive if it cannot display any movement for a time period of 30 seconds."

2.7 The matches will be direct knock out matches ,the winners keeps on moving ahead.

3. SPECIFICATIONS
3.1 Bot Specifications:
3.1.1 Bot dimension & fabrication:
3.1.1.1 The initial dimension of bot should not exceed 60cm x 60cm x 60cm. However there is no limitation on bot dimension once the match starts.
3.1.1.2 Any machine component should not be detached (intentionally) during any point of the war.
3.1.1.3 The weight of the machine should not exceed 30 kgs. (Excluding remote control and remote control wires).

3.1.1.4 In case of a wireless bot weight will be counted as (0.8x actual weight).
3.1.1.5 Readymade gear boxes, parts, chassis, control circuits and remote
control can be used.
3.1.2 Bot control:
3.1.2.1 In case of wired bots, the wires should remain slack at any instant during the fight. All the wires coming out of the machine should be stacked as a single unit. Also, the wires should be projected 1000 mm above the ground to avoid entanglement.
3.1.2.2 In case of wireless system, it should have a minimum four frequency remote control circuit or two dual control circuits or a transmitter receiver paired module so that the frequency interferences with opponent team can be avoided (in case of any interference in the wireless systems, they will not be considered for rematch or in the results).
3.1.2.3 Remote controls that are readily available in the market may also be used.

3.1.3 Battery & power:
3.1.3.1 The machine can be powered electrically only.
Use of an IC engine in any form is not allowed.
Batteries must be sealed, immobilized electrolyte types (such as gel cells, lithium, NiCad, NiMH, or dry cells).
3.1.3.2 The electrical voltage at any point of time in the machine should not exceed 40 V DC/AC.
3.1.3.3 230V (AC) power will be provided.(wired bots)
3.1.3.4 In case of wireless bot batteries should be placed on the bot also teams cannot use 230V(AC) external supply.

4. Use of Weapons
Weapons can be used in the form of Pneumatics or Hydraulics , until and unless it destroys the arena or the harms the surroundings.
Use of IC Engine is not allowed.
Use of Airborne Mechanism is also not allowed.

5. SAFETY
Any Bot not bearing the safety norms will be disqualified .

6. Arena
Arena will be square shaped arena with Opponents at the extreme ends.

There will be hole in the between the Arena called as PIT , if the team drops the opponent bot into the arena, they will declared as winners.
If the team itself gets into the pit, then they will lose, and the other team will be declared as winners.

Winning Criteria:
a)The Bot is Dropped into the PIT.
b)The bot immobilizes the opponent BOT.

If not, The points shall be allotted as :
P=100*No of Attacks + 100(For Creativity)+100(Team Capability)