ROBO WAR

TASK :-

Two bots will fight against each other in the arena. Their aim will be to overpower among opponents and throw them out of the arena, drop into the pit made in the arena. It will have fixed time duration.

BOT SPECIFICATIONS:-

Mega War:

Robot dimension & fabrication -

The initial dimension of the robot should not exceed 60cm x 60cm x 40cm. However there is no limitation on robot dimension once the match starts.

Any machine component should not be detached (intentionally) during any point of the war.

The weight of the machine should not exceed 45 kg .

In case of a wireless robot, weight will be counted as (0.8 x actual weight).

Readymade gear boxes, parts, chassis, control circuits and remote controls can be used.

Battery & power -

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).

The electrical voltage at any point of time in the machine should not exceed 40 V DC/AC.

230V (AC) power will be provided (wired bots).

In case of wireless robot, the batteries should be placed on the robot.
In case of wired robots teams can use external batteries.

All efforts must be made to protect battery terminals from a direct short and causing a battery fire. Failure to do so will lead to disqualification.

Mini War:

Robot dimension & fabrication -

The initial dimension of the robot should not exceed 30cm x 30cm x 30cm. However there is no limitation on robot dimension once the match starts.

Any machine component should not be detached (intentionally) during any point of the war.

The weight of the machine should not exceed 20 kg and should not be less than 5 kg (excluding remote control and remote control wires).

In case of a wireless robot, weight will be counted as (0.8 x actual weight).

Readymade gear boxes, parts, chassis, control circuits and remote controls can be used.

Battery & power -

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).

The electrical voltage at any point of time in the machine should not exceed 24 V DC/AC.

230V (AC) power will be provided (wired bots).

In case of wireless robot, the batteries should be placed on the robot.
In case of wired robots teams can use external batteries.

All efforts must be made to protect battery terminals from a direct short and causing a battery fire. Failure to do so will lead to disqualification.

Robot control -

In case of wired bots, the minimum length of the wires should be 10 meters. 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.

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 frequency interferences with the opposing team can be avoided (in case of any interference in the wireless systems, they will not be considered for rematch or in the results).

Remote controls that are readily available in the market may also be used.

Pneumatics and hydraulics

Participants can use pneumatic and hydraulic weapon systems but use of external pressure/ liquid cylinders are not allowed. Cylinders should be placed on the robots.

The outlet pressure of the source/tank should not exceed 8 bars.

Robots can use pressurized, non-inflammable gases/liquid to initialize their pneumatic mechanisms.

The used pressure should be indicated by means of a temporarily fitted pressure gauge or there should be a provision to measure the cylinder pressure on the robot.

You must have a safe way of refilling the system and determining the on board pressure.
All pneumatic components on board a robot must be securely mounted. Particular attention must be paid to the pressure vessel mounting and armor to ensure that if ruptured it will not escape the robot. The
terms pressure vessel, bottle, and source tank' are used interchangeably.

Weapon Systems

Robots can have any kind of cutters, flippers, saws, hammers, lifting devices etc. as weapons, with the following exceptions:

Liquid projectiles

Acid based Weapons

EMP generators

Any kind of flammable liquid

Flame-producing weapons

Explosives,water ,

Nets, glue or any other entanglement devices

High power magnets or electromagnets

TEAM SPECIFICATION :-

Each team can have maximum of 4 members.

During the match only one team-member will participate in competition (active member). He will be controlling the robot. Teams are allowed to switch the active members in different matches.
This switch is not allowed in the middle of an on-going match.

Setup time: 60 seconds. In case a team does not report to the weight and measurement
counter before their setup time starts, then the opponents will be declared the winners of that round.

Also, if a team fails to setup their robot within 60 seconds, then the opponents will be given a walkover.

GENERAL RULES :-

The bot will be inspected for safety before the event begins. It will be discarded from competition, if found unsafe, for the participants or spectators.

The organizers have the right to change any or all of the rules as they deem fit. Changes in rules, if any, will be highlighted on the website.

Violation of any of the rules will result in immediate disqualification.

Teams that are not ready when called for battle will be considered to have declared a walkover, and will receive no points.

The bot cannot be split into two sub-units. Two distinct parts connected by a flexible cable will be considered separate units.

Damaging the arena will lead to immediate disqualification.

Lego kits, readymade kits, car bases and development boards are not permitted. Readymade gear boxes are permitted.

In all cases, the judges' decision will be final and binding.