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# ROBOWAR & MINI ROBOWAR

## Introduction:

Design a manually controlled ROBOT wired or wireless within a specified dimension mentioned as below. The robot that will demolish the other robot in minimum time or minimum parts damaged of the robot will be the winner.

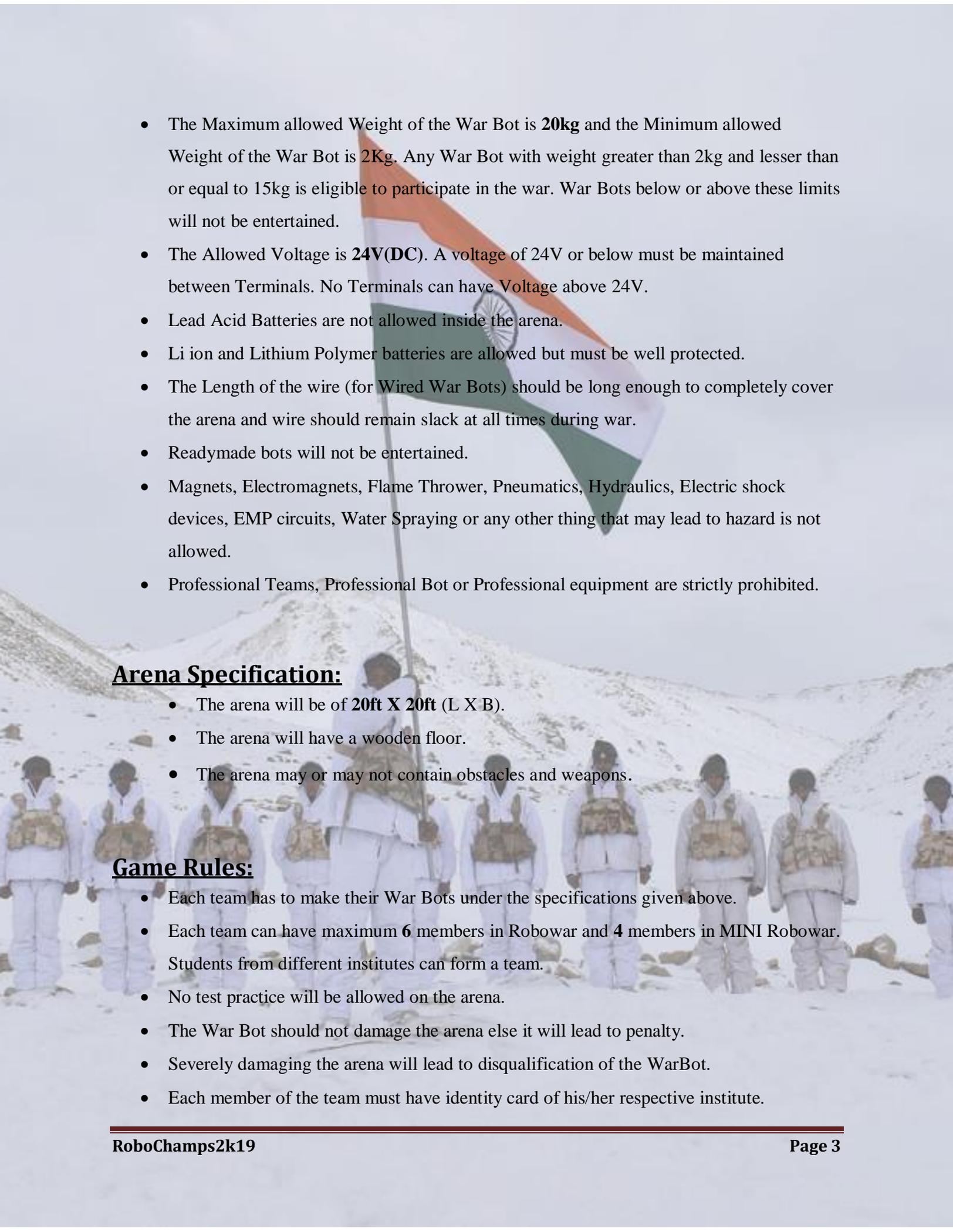
## War Bot Specification:

### Bot Specification (35kg):

- The Maximum allowed size of WarBot is **650mm X 650mm X 400mm(L X B X H)**, WarBots exceeding these sizes are strictly prohibited to participate in the War.
- The Maximum allowed Weight of the War Bot is **35Kg** and the Minimum allowed Weight of the War Bot is 21Kg. Any War Bot with weight greater than 21kg and lesser than or equal to 35kg is eligible to participate in the war. War Bots below or above these limits will not be entertained.
- The Allowed Voltage is **48V(DC)**. A voltage of 48V or below must be maintained between Terminals. No Terminals can have Voltage above 48V.
- Lead Acid Batteries are NOT allowed inside the arena.
- Li ion and Lithium Polymer batteries are allowed but must be well protected.
- The Length of the wire (for Wired War Bots) should be long enough to completely cover the arena and wire should remain slack at all times during war.
- Readymade bots will not be entertained.
- Magnets, Electromagnets, Flame Thrower, Pneumatics, Hydraulics, Electric shock devices, EMP circuits, Water Spraying or any other thing that may lead to hazard is not allowed.
- Professional teams, Professional Bot or Professional equipment are allowed.

### Bot Specification (20kg):

- The Maximum allowed size of War Bot is **400mm X 400mm X 300mm**, War Bots exceeding these sizes are strictly prohibited to participate in the War.

- 
- The Maximum allowed Weight of the War Bot is **20kg** and the Minimum allowed Weight of the War Bot is 2Kg. Any War Bot with weight greater than 2kg and lesser than or equal to 15kg is eligible to participate in the war. War Bots below or above these limits will not be entertained.
  - The Allowed Voltage is **24V(DC)**. A voltage of 24V or below must be maintained between Terminals. No Terminals can have Voltage above 24V.
  - Lead Acid Batteries are not allowed inside the arena.
  - Li ion and Lithium Polymer batteries are allowed but must be well protected.
  - The Length of the wire (for Wired War Bots) should be long enough to completely cover the arena and wire should remain slack at all times during war.
  - Readymade bots will not be entertained.
  - Magnets, Electromagnets, Flame Thrower, Pneumatics, Hydraulics, Electric shock devices, EMP circuits, Water Spraying or any other thing that may lead to hazard is not allowed.
  - Professional Teams, Professional Bot or Professional equipment are strictly prohibited.

### **Arena Specification:**

- The arena will be of **20ft X 20ft** (L X B).
- The arena will have a wooden floor.
- The arena may or may not contain obstacles and weapons.

### **Game Rules:**

- Each team has to make their War Bots under the specifications given above.
- Each team can have maximum **6** members in Robowar and **4** members in MINI Robowar. Students from different institutes can form a team.
- No test practice will be allowed on the arena.
- The War Bot should not damage the arena else it will lead to penalty.
- Severely damaging the arena will lead to disqualification of the WarBot.
- Each member of the team must have identity card of his/her respective institute.

- Qualification to the next level is subjective and totally based on the judges.
- Each Team is advised to make clear demarcations (Like Branding or name of team or name of WarBot) on their bots to make it easier to award points in case two similar looking bots are at War. In case two similar looking bots do go at War we will provide for colored Strip to be put clearly on your bot.
- Certificates of participation will be given to all the teams. Disqualified teams will not get the certificate due to disobeying any of the rules.
- Unethical behavior from any team member could lead to disqualification.
- Faculty coordinators and Head coordinator have all the rights to take final decision for any matter during the event, and also reserve the rights to add/remove/change any rules before or during the event.
- The necessary rules for playing the match will be explained on the day of event.
- Use of gas, fire or electrical fittings on your WarBot will lead to disqualification of the WarBot.
- Maximum DC source voltage allowed for Robowar is **48V(DC)** and for MINI Robowar is **24V(DC)**.
- Bring your own AC to DC converter as college will provide 220Volt AC supply only.

### **Game Play:**

- There will be 3 rounds. Each round will be of 5 minutes. The winners of the round 1 will qualify to the next round and that of round 2 will qualify to the next round.
- The aim of every match is to demolish and immobilize the other WarBot completely.
- The Teams will be called 15mins prior to their match; another call will be made at 10mins.
- The Team must be present along with their completely ready bot 10mins prior to their match.
- The WarBot will undergo Quality check.
- Once the Team is cleared by the QC team and when the Arena Coordinator instructs the team, the team will be allowed inside the arena and they must place their bot in position.

- 1 min time will be provided to both Teams to adjust their bot and make them ready for the War.
- In case the Team has any objections against their opponents, the Team can approach the Coordinator and convey their Objections. Any legitimate request or objection will be entertained and necessary action will be taken by our coordinators for it.
- Any Rules, Points and other necessary details will be clarified to both teams at the time of the war.
- Professional equipment, Bots and Professional Teams are allowed in Robowar but prohibited in Mini Robowar.

## **Event Plan:**

### **Round 1:**

The war will be held on rectangular based closed arena and the team that will complete the given round by demolishing other robots in least time will qualify for the next round.

### **Round 2:**

The war will be held on rectangular based closed arena with some obstacles and the team that will complete the given round by demolishing other robots in least time will qualify for the next round.

### **Final Round:**

The war will be held on the modified rectangular based closed arena with some obstacles and the team that will demolish other robot in least time will be considered as the winner of the event.

## **Contacts:**

**Mr. Aditya Jain(7253060066)**

**Mr. Amit Sharma(8218839141)**

# **GAME OF DRONES**

## **Introduction:**

The event requires participations to design build a remote controlled flying machine to complete the tasks of the competition with the highest point possible & in minimum time. The path will be designed as per difficulty of the level.

## **Specification:**

- Every type of drones are allowed except readymade ones.
- Drone must be able to pull up **500 gram weight (max)**.
- The diagonal size (excluding propellers) of the drone should not be more than **500mm**.
- The battery used in drone should not exceed the limit of **12 volts(DC)**.
- Arena will be having hurdles, weight lifting using drone and many more.

## **Game Rules:**

- A team can take part with only one drone, i.e. no other team can take part with same drone.
- No test practice will be allowed in the main competition arena.
- Any readymade or purchased bots will not be accepted in the contest. Participants with their self-made robots will only be allowed.
- The retrace of arena/stage is entertained with some negative points, if the problem cannot be solved or in case of any accident.
- Participants are not allowed to be a part of more than one team in the same event.
- Propeller guards are not allowed.
- Any damage to the arena will not be acceptable.
- The damage to the drone (in case) is the responsibility of participants only.
- The coordinators reserve right to change any or all the above rules as they deem fit.
- Participants should not have any objection on the decisions regarding the results.
- Each member of the team must have identity card of his/her respective institute.
- Professional teams are strictly prohibited.

## **Contacts:**

**Ms. Priyanshi(8279454643)**

**Mr. Shubham Tyagi(7451987227)**

# AMPHIBOT

## Introduction:

Design and make a wired and wireless controlled bot, which has to navigate through land and water obstacles, in the shortest time possible. The bot can be powered by either by batteries and power supply.

## Bot Specification:

- The maximum dimension of the robot should be **300mm x 280mm** (l x b). Height is as per your convenience.
- Maximum weight of the robot must not exceed **3 kg**.
- A power supply should be maximum **12V(DC)**.
- The length of the wire should be long enough to cover the whole track and wire should remain slack during the complete run.
- Readymade robots are not allowed.
- Robot can be wired or wireless.
- The wireless robots will get a benefit of 10 sec over wired ones.

## Game Rules:

- Each team has to make their robots under the specifications given above.
- Each team can have maximum of 4 members. Students from different institutes can form a team.
- The fastest and the most balanced robot will win.
- Skipping of the permitted obstacles, water etc. will lead to time penalty.
- The necessary rules for playing the match will be explained on the day of event.
- No test practice will be allowed on the arena.
- The robot must not leave behind any of its parts during the run else it will result in disqualification and the robot or participant should not damage the arena.
- Unethical behavior could lead to disqualification. Jury members have all the rights to take final decision for any matter during the event. Judge's decision will be considered final.
- Certificates 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.
- Each member of the team must have the identity card of his/her respective institute.
- Professional teams are strictly prohibited.

**Contacts:**

**Mr. Aman Garg(8273018602)**

**Mr. Divyanshu Tewari(7217373641)**



# **CODING ARENA**

## **Introduction:**

Coding Arena is a coding contest organized by RoboChamps. The contest contains programming questions of various difficulty level and concepts to enhance the skills of students. The contest also provide the students exciting opportunities to boost up their career in it field. Individual or a team comprising of two can participate in the contest.

## **Rules & Regulations:**

- All candidates are required to register themselves on Hackerrank.
- This is a team event and each team is allowed to have 1-2 members.
- All the participants are required to carry their ID-Cards .
- Keep your Hackerrank credentials handy as they will be required for participation in the event.
- All the candidates are required to reach the venue an hour before to get themselves seated and for the registration process.
- Languages supported are C,C++,Java,Python,Perl.
- Any form of plagiarism is strictly prohibited.
- No late entries will be considered.
- Each member of the team must have identity card of his/her respective institute.
- Unethical behavior could lead to disqualification. Jury members have all the rights to take final decision for any matter during the event. Judge's decision will be considered final.

## **Contacts:**

**Ms. Prachi Sharma(9760621653)**

**Mr. Umar Alam Siddiqui(7417576582)**

# HACKATRONICS

## Introduction:

The event is based on examining the theoretical knowledge of the candidates and applying it to debug a circuit. The candidate has to qualify various rounds in order to prove his/her theoretical knowledge quiz and circuit debugging which test the candidates understanding of theoretical knowledge and its applications in real life.

## Game Play:

- Participants may come in teams of at most two members.
- The event would consist of two rounds:
  1. Round 1 will be a quiz on the gadgets and electronics used in daily life and basic 'C'.
  2. Round 2 comprises of two stages.

## Stage 1:

- The participants will be provided a complete circuit with an error. They have to detect the error and correct it to give the corresponding output.
- The fixed input and fixed output will be predefined and the participants have to debug the circuit in such a way that the output obtained is exactly same as the theoretical output.

## Stage 2:

- Here the participants will be provided with some specific components. Using those components, the participants have to generate the desired output.
- Round 1 will be held on the first day of event i.e. 29 Aug 2019 in different slots whereas the Round 2 will be held on the second day. Both the stages of round 2 will be conducted on same day and finally the prize distribution ceremony on the last day (31 Aug 2019).

## Rules & Regulations:

### ROUND 1

- Round 1 will be a quiz.
- The time duration of quiz will be 60 minutes.
- The participants will not be allowed to use internet. If anyone found cheating during quiz, this will lead to their disqualification.
- Both the participants will participate alternatively, for the first 30 minutes one member of the team will perform and the remaining 30 minutes the other member will perform.
- Before the quiz starts, the participants will mutually decide that who amongst those is going to perform first.

## **ROUND 2**

- In this round for stage 1, participants will not be allowed to use internet but for the second stage participants will be allowed.
- The components provided will be specific, no additional component will be provided to any participant.

## **JUDGEMENT CRITERIA**

- Simplicity.
- Innovation.
- Practicality and cost effectiveness.
- Extent of implementation.
- The participants appearing in Round 1 will be judged on basis of their score of quiz. Top 10 teams will be going to round 2 for stage 1.
- In stage 1 of round 2, the participants will be judged on the basis of accuracy and speed.
- Top 4 teams will be selected for the stage 2.
- The judging criteria for final round will be decided by the judges themselves.
- Each member of the team must have identity card of his/her respective institute.

## **Contacts:**

**Ms. Shalvi Tyagi (8171994429)**

**Mr. Shubham Sachdeva (7017796050)**



# **IOT BASED HACKATRONICS**

## **Introduction:**

The multiple, overlapping technology layers involved in building a smarter and connected world make it necessary to bring together diverse sets of thinkers, makers and coders from different fields.

## **Rules & Regulations :**

- This is a team participation hackathon and you can have at most 4 members in your team.
- This is an onsite hackathon, which will be organized at Meerut Institute of Engineering and Technology.
- The theme of the event is Defence (Army) and all the ideas or hacks must be developed around it.
- You are expected to come up with new and innovative ideas, any ideas that have been copied from somewhere else will be disqualified.
- Each team will have to make a prototype based on their idea. You can do some prep work for the prototype beforehand but majority of it must be developed during the event.
- The submission must make a clear distinction between work done before the hackathon and the work done during the hackathon.
- You may use open source libraries and other freely available systems / services such as Google Maps, Facebook Connect, Twitter feeds etc.
- The intellectual property of your code belongs only to your team.
- Each member of the team must have identity card of his/her respective institute.

## **Contacts:**

**Mr. Pratyush Garg(9411601213)**

**Mr. Arun Pundir (8384827022)**

# **REVINOVATION' 19**

## **Introduction:**

It is an Idea Presentation competition that tests the caliber of students to create innovative solutions through simple ideas and technologies. This is a Two-Day competition with three qualifier rounds. Students can participate either individually or in a team of 2-3 students.

## **Rules and Regulations:**

The event will be in three phase.

### **1. Quiz:**

- Time- Max 30 minutes.
- No Negative marking.
- All objective Questions.
- In case of multiple team members average score of whole team will be considered.

### **2. Think Tank:**

Each team given a template which consist of :

- Title of the Idea
- Purpose
- Technology used (Hardware and Software)
- Benefits

Time allowed for filling the Details 30 minutes.

### **3. Paper Presentation:**

- Time for Paper Presentation: 15-20 minutes.
- Time for Questions and Answers (Q&A): 5-7 minutes.
- In case of multiple team members, it is mandatory for each team member to speak for a part time.
- Apart from Judges, other teams can also pose questions to the performing team.

## **Contacts:**

**Ms. Sanskriti Tyagi(9897887263)**

**Mr. Achint Raj Anand(9536688404)**

# RICOCHET

## Introduction:

Ricochet is an event conducted to give a tribute to The Indian Army, where participants will get the complete feel of a battlefield while shooting enemies, protecting their partners and digging defensive weapons and racing to win.

## General Rules:

- All Players will be required to uphold and observe a universal level of sportsmanship. Any unsportsmanlike action which includes but is not limited to (racism, profanity, rude acts, vulgar acts, acts of belligerence, and disrespect of an Official) may be reviewed and is grounds for the team or player to be disqualified by the officials
- If a player or team found in violation of this rule the following actions may happen:
  - Major or minor infractions as judged by an official: Warning 2.
  - Severe or repeated major infractions as judged by an official: disqualification
- To ensure that the tournament is run in a just and fair manner, all disputes are taken seriously and ruled upon by an official within 1 hour of receipt of the player provided and/or official requested information related to the dispute.
- All disputes must be filed within 10 minutes following the completion of the match with the presiding official.
- Dispute Submission Detail:
  - If you suspect a player of cheating, be prepared to list exactly where you think this occurred in the match.
  - Please supply as much detail to provide the official with the most accurate information possible.
- The parties involved will then have 15 minutes to submit all requested evidence to the Official in charge of the dispute.
- If a team attempts to manipulate or exploit these gameplay rules in any way other than for its intended use, the officials reserve the right to make a final ruling on the rule in question for the given match and/or dispute.
- Protests can only be filed by the team leader.
- If a competitor doesn't agree with any of the rules, he/she can bring it up with the Marshal before the completion of a match.
- Any intentional refusal to connect to the match server can result in a default loss for that team with the decision to be made at the sole discretion of the organizer.
- If the organizer has announced a rematch, failure to comply will result in disqualification.
- No player will be allowed to play the same game twice.
- If the team is incomplete then there shall be no match and it will be disqualified.
- Any damage caused to the college property will be beared by you.
- Participants are allowed to bring their gaming mouse and mouse pad.
- Each member of the team must have identity card of his/her respective institute.

- **IT IS MANDATORY FOR ALL TO BRING THEIR OWN HEADSET WITH MIC OR EARPHONES.**

## **1 ) Blur/NFS -Most Wanted**

### **Registration:**

- Matches will be 1 versus 1.

### **Rules:**

- The player who reaches the finish line first will be declared the winner.
- In case of a tie or some other technical issue (game crashing), the race is not completed then both the players will have to play on the same track with the same cars as that of the previous race.
- The set of cars and playable tracks will be told to you beforehand and in no circumstances can these be changed unless there is a very legit issue.
- In the case of multiple races among the same players, a 5 min break will be given solely for the purpose of selecting a car/ color for the race from the given pool of cars.
- All mods will be disabled in every race.
- In case of multiple races between two players, the player who wins the higher no races is to be declared the winner, however, if both players tie by winning an equal number of races (in case of even no of races) then the player with the higher number of points is declared the winner.
- Participants are allowed to bring their gaming mouse and mouse pad.
- **IT IS MANDATORY FOR ALL TO BRING THEIR OWN HEADSET WITH MIC OR EARPHONES.**

## **2 ) CS GO**

- For Gaming fanatics, this is the event to be.

### **Rules:**

- Game mode will be competitive 5 VS 5.
- The names of team captain and members should be given to the Coordinator as soon as you register yourself at the registration desk.
- If any individual player arrives to play CS GO then they will be allotted in a team according to the coordinator.
- The maps will be from DUST2, MIRAGE, CACHE, OVERPASS, INFERNO.
- Teams Pairing will be done on the basis of maps selection.
- In any dispute on map selection by teams, then dust 2 will be played.
- There will be a toss for selecting side (Counter Terrorist or Terrorist).
- After side selection, all the members will join the server and can configure their sensitivity and crosshair. The match will go LIVE next and will be played according to the competitive mode in CS: GO.
- In case of any doubts, you will be guided at the time.
- Winning Team will go in next round as according to Knockout Tournament.

- In case the team wants to pause a game, they can take a timeout only once in a match.
- In case of a draw, a team having maximum kills will be considered as winner.
- Participants are allowed to bring their gaming mouse and mouse pad.
- **IT IS MANDATORY FOR ALL TO BRING THEIR OWN HEADSET WITH MIC OR EARPHONES.**

### **Instruction:**

- All participants are expected to arrive on the arena at least 10 minutes before the allotted time slot, failing which the team may be disqualified. So make sure that all your team members are present at the given time. Don't expect the Gaming Club members to reschedule your time slot.
- There will be no restrictions on guns to be played.
- Intentionally friendly fires will not be tolerated at any cost.

### **3) PUBG Mobile**

- Match will be based on Squad mode.
- Game will be in TPP Mode.
- The server will be ASIA.
- Room ID and Password will be disclosed before the match.
- All participants are expected to enter room atleast 15 minutes before the match begins.
- If anyone caught Teaming up will be disqualified from the Match along with their partner.
- Players cannot engage with other player in a verbal manner(curse words,racism).
- **All Players are requested to bring their own mobile phones with earphones.**
- All Third party software that changes the game content are prohibited during the Tournament and if player violates this rule ,it will be considered as hacking and the player will be disqualified.
- In case of any doubts you will be assisted at the time.

### **Contacts:**

**Mr. Rohit kumar (9058971530)**

**Mr. Rishabh Saxena(7417342655)**

# **ROBORACE**

## **Introduction:**

You have to construct a bot (wired/wireless) whose task is to complete a race course with multiple obstacles within the least time possible without using any sort of mechanical engine or preinstalled market kits/lego parts. The event will be in three rounds with increased difficulty level with the commencement of each round.

## **Game Play:**

There will be 3 rounds in this competition.

### **Round-1:Elimination round(Time based)**

- In this round, which team robot will complete the track earlier will be selected for second round.

### **Round-2:Qualifier round(minimum no. of human intervention and time based).**

- In this round which team will have less intervention in robo and less time will be selected for final round.

### **Round3:Final round(track will revealed on the spot**

- Completion or time based round).This round will be little bit suspense round, track will be shown on the spot to the team members.

## **ROBOT SPECIFICATION:**

- The maximum dimension of the robot can be **250mm x 250mm x 150mm** (L x B x H).
- The robot may be wired or wireless.
- Maximum weight must not exceed **3 kg**.
- The participants will be provided with 220 Volts, 50Hz standard AC supply. Participants will have to themselves arrange for adaptor or batteries.
- The machine must not be made from Lego parts, or any ready-made kit, if we find such machine it will be disqualified.
- The machine must be powered electrically only. Use of IC engine is not allowed.
- 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.

## **GENERAL RULES:**

- No human intervention is allowed in between the race.
- Robot should be as per the given specifications.
- Each team can have maximum five members. Students from different institutes can form a team.
- The robot should not damage the arena.
- No test practice will be allowed on the arena.
- The robot must not leave behind any of its parts during the run; else it will result in disqualification
- Not good behavior could lead to disqualification. Faculty coordinators have all the rights to take final decision for any matter during the event.
- This is racing event so fastest and most balanced robot will win.
- Teams start their vehicles at starting line, on a signal given by the event coordinators. The timing will begin as soon as the signal is given.
- Your vehicle should always remain inside the track. If your vehicle leaves the track, at any point of time it gets penalized.
- The length of the wire (for wired bots) should be long enough to cover the whole track and wire should remain slack during the complete run.
- Judge's decision will be considered final.
- Each member of the team must have the identity card of his/her respective institute.
- Professional teams are strictly prohibited.

## **EVENT RULES:**

- The competition is based on time trail system. There will a qualifying round for each team.
- The top team from qualifying round makes it to the final round on basis of time trials.
- The track will contain certain number of check-points and if the bot goes out of the track then it has to start with the previous check-point.
- There will be certain number of hurdles and obstacles. Each obstacle and hurdle will be assigned some specific points and have to be completed in a stipulated time limit.
- Point description will be disclosed on the spot before commencement of event.
- This will be a two round of competition and entry to the final round will be solely based on total cumulative points of previous round.
- Wires should remain slack during the course of the run. Pulling the wire to aid the robot in traversing may lead to disqualification.
- If any of the robots starts off before start up call, the counter would be restarted and the machines will get a second chance. If repeated again then team will be disqualified.
- Your robot must be ready when call is made for your team.

- Team members will be allowed only three times to touch or reset their robots position during the run. However, this will lead to a time penalty and timer will not stop during this course of action.
- The robot will be judged on basis of (in priority):- a. Time to complete the track. b. Number of checkpoints cleared.
- Machine must not contain any readymade kits, pneumatic &hydraulic systems, IC engines.
- Decision about your robot will be taken by the organizers.
- No team will get a second chance after completing the track with poor score.

### **Contacts:**

**Mr. Aadarsh Jha(7985486872)**

**Mr. Nipun Aggarwal(9639153242)**



# ROBOSOCCER

## Introduction:

The event is based on construction of a bot (wired/wireless) that would work as a football player and put the ball to the goal defeating the opponent with minimum number of hits to the other bot and the arena and least use of weapons that cause damage to others.

## Bot Specifications:

- Robo can be wired or wireless.
- Your robo must fit within a size no more than **30cm × 30cm × 30cm(L×B×H)**.
- The max. weight limit of robot including all the accessories and equipment (BATTERIES) is **5kgs**.
- In case of wireless robot weight of power source must be included.
- Bring your own AC to DC converter as college will provide 220volt AC supply only.
- Maximum DC source voltage allowed for event should not more than **12V(DC)**.
- The Robo's are prohibited to use any movable parts such as grippers or actuators indeed harm the opponents robo soccer.

## Game Rules:

- The game will be played in **1 vs 1** format.
- Each team will have to defend and score goals.
- Teams will be given 2-minutes preparation time before the game starts.
- Maximum 5 members are allowed in a team.
- The game will consist of three rounds of 3 minutes each.
- Only one member will be allowed to control the robo.
- Team should NOT exert any mechanical force by the controlling cord or in any other way.
- The game will start with the ball (soccer) in the centre of the arena and both the robots in their respective goal posts.
- Halt Time: Between any round if the two robots are struck together, the coordinator will stop the game and move apart the bots and then the game will resume.
- Draw: If both teams score equal points then two more rounds will be played and the winner will be decided with the lesser number of penalties.
- Breakdown: If any robo stopped moving for more than 10 seconds the round will be stopped and the team will be given 2 minutes to remedy the problem. If still robo is unable to move, the team will have to forfeit the match and the other team will win.
- In any case the time recorded by the coordinators will be final.
- In case of wired remote control, one of the team members have to hold the wires cord to avoid the wires to struck between the bots.
- In case of chaos between the two teams during the match, the decision taken by the coordinator will be finalized.

- Each member of the team must have identity card of his/her respective institute.
- Professional teams are strictly prohibited.

### **Scores:**

- Each team will get 3 points on scoring a goal.
- A goal will be counted when a team drags or pushes the ball(soccer) in opposite team's goal post.
- Each penalty will reduce your score by 1 point.
- Penalties will be counted after 3 warnings given by the coordinators.
- Robots are allowed to defend the goal by blocking the way of their opponent.
- Teams are not allowed to remain in the D area during the match i.e. teams are required to defend and score goals all at same time.

### **Penalties:**

Following reasons will lead to penalties:

- Attacking the opponent's robo intentionally.
- On touching the robo during the match.
- Moving or dragging your robo by using any means of mechanical force (or moving with wire cord).
- Using your wire cord to entangle the opposite robo-soccer.
- Moving your robo before the coordinator signals to start the game.
- Staying only in the D area.
- Damaging the arena by your robo will also be counted as a penalty.
- Any type of misbehaviour and misconduct will lead to disqualification.

### **Contacts:**

**Mr. Shubham Gupta(8650482485)**

**Mr. Shubh Maheshwari(8445766740)**

# **ROBOTRANSPO**

## **Introduction:**

A bot will be graded to the way of transporting the food, weapons etc to the soldiers in the war conditioned arena in the minimum time. The bot should be able to tackle all the possible huddles in ta war prone area.

## **Bot Specification:**

- The maximum dimensions of the robot are **300mm x 300mm x 300mm**.
- The robot may be wired or wireless. In case of a wired robot, the wires must remain slack at all times during the game.
- The machine must not be made from Lego parts, or any ready-made assembly kits.
- The robot shall be inspected before the event. Failing the inspection shall lead to disqualification.
- Each team has to bring its own power supply (Only AC supply 220V will be provided).
- The voltage difference between any two points on the bot must not exceed **12 volts(DC)**.
- The wire used to power/feed the bot should remain slack at all times.
- Arena if harmed by any of the participants, they will be disqualified instantly.
- The robot weight should not exceed **4 kg**.
- The robot should be capable of picking and placing the cubic box of maximum size **60mm x 60mm x 60mm**.
- The movement of the arm should be vertical and horizontal as required in the tasks.

## **GAME PLAY:**

The event consists of three rounds:

### **Round 1:**

- This round consists of a track with certain tasks and hurdles which the bot needs to overcome in minimum possible time. The teams who will successfully complete this round in minimum time will be in next round.

### **Round 2:**

- In this round, certain changes will be made in the track and extra tasks will be added in the track. The team completing all the tasks in minimum time will go to the final round.

### **Round 3:**

- The final round will be a bit different from round 1 & 2 and will be consisting of different level of difficulties. The team which will take minimum time to complete the final round will be the winner.

### **GENERAL RULES:**

- Team will have to report at least 15min before the time slot allotted to them at the beginning of the event, failure to do so may result in disqualification.
- No last-minute repairs will be allowed in the robot.
- Organizers reserve the rights to change the rules at any point of time as they deem fit.
- Depending upon the number of participants, the judging committee will decide how many teams will qualify for the main event.
- Only two players are allowed to enter the arena.
- The track will have one or more slopes, terrain can be rough or smooth.
- Each member of the team must have identity card of his/her respective institute.
- Professional teams are strictly prohibited.

### **TEAM SPECIFICATIONS:**

- A team can consist maximum of five members.
- A team may consist of students from different colleges.
- The participants must have a valid identity card of their institute.

### **Contacts:**

**Mr. Rajat Batan(8859645152)**

**Mr. Shivansh Sharma(7906245004)**

# SILK ROUTE

## Introduction:

Silk route is the event where different bots participate having general, predefined and embedded specification to cover up the arena in different time according to their speed, accuracy and performance. Here different rounds are organized having different difficulties level and varieties of huddles. Line follower robot (i.e. AUTOMATED GUIDE VEHICLE) is used by the participant to cover the arena.

## Bot Specification:

- The robot should be strictly autonomous.
- The width of the track line will be in between 2 to 3 cm.
- Dimensions of the bot should not exceed **250mm X 250mm X 200mm**, there will be minimum **400mm** gap between two neighbour lines.
- The power supply for the bot should not exceed **12 volts(DC)**.
- The weight of the bot should not exceed **2.8 kg**.

### **ROUND 1 (Salute The Nation):**

- In this round bot has to follow the twisted and curved lines and complete the path in least possible time.
- This will be the simple line following round that will test the speed and sensitivity of the robot.
- The top teams will be qualified for the next round.

### **ROUND 2 (Check the Weapon):**

- In this round bot have to cover path with some typical huddles and obstacles.
- This round will check the intelligence and speed of the bot.
- The top teams will be qualified for the next round.

### **Round 3 (The Final Wall):**

- This round will be wall follower round in which the bot has to follow the path made between the walls and solve the maze.
- The bot can use any kind of obstacle sensing device in this round.
- Time, number of touches to the bot, number of hits to wall and overall performance in the round will be consider.

#### **ROUND 4 (The Maze Solver):**

- This round will have a maze having different number of path in which some path will meet to the end point and
- Some will end at a terminal.
- In this round the bot have to found a correct path and complete it in least possible time.
- This round test the decision making ability of the bot.
- The top teams will be qualified for the final round.

#### **RULES:**

- The team should comprise of at most 5 members.
- The robot has to follow the black or white line as specified according to the round in the least possible time.
- The tracks will be shown before some time of the respective rounds.
- Each round will be knockout round.
- Each round has different penalty of time or points for touches and fouls according to the particular round.
- Any damage to the arena due to bot or team member will cause to disqualification of the team from the competition.
- The design and overall performance of the robot may be considered in case of a tie.
- Directing the robot or sensors by any external measure like pull, hand push will not acceptable and can cause penalty.
- Some of the rules will be disclosed on the spot.
- Final decision is taken by the judges everyone have to obey them.
- Each member of the team must have identity card of his/her respective institute.
- Professional teams are strictly prohibited.

#### **Contacts:**

**Mr. Avneesh Saraswat(8126812700)**

**Mr. Ramendra Raghuvanshi(9076681079)**

## **BAN COMPONENTS LIST**

**Note:- Except Robowar and Mini Robowar.**

1. Amp-flow
2. Power steering motor
3. Starter motor
4. Wiper motor
5. Planetary motor
6. E-bike motor

*By - ACHINT RAJ ANAND*