MALNAD COLLEGE OF ENGINEERING

(AN AUTONOMOUS INSTITUTE UNDER VTU, BELGAUM)

HASSAN, KARNATAKA

THE MALNAD TECHNICAL CLUB

PRESENTS

ENIGMA'23
UNLEASH THE
MYSTERY OF TECHNOLOGY

RULE BOOK

GENERAL RULES
FOR ALL EVENTS

GENERAL RULES:

1. Participants can team up from different institutions. Each participant should carry identity proof.
2. Students taking part in the events can register even on the day of the fest at the registration desk or virtually.
3. Students should refrain from abusive language, obscene display and revealing costumes during the competitions, failing which they will be disqualified.
4. Smoking, drinking and consumption of any such 'substances' are prohibited.
5. The judges' and organisers decision stands final.
6. Participants should go through the event rules and adhere to the specifics. All the events will commence at the scheduled time; Punctuality will be appreciated.
7. Any delays, even after announcement leads to disqualification.
8. Rules are subject to changes at the discretion of the Management and Organizers.

NATIONAL LEVEL
PAPER PRESENTATION

NATIONAL LEVEL PAPER PRESENTATION

""Ideologists arise, not from the ashes but from opportunities." Being an excellent platform to showcase the research and ideas, this event has seen considerable amount of growth since past years, both in terms of its quality and sublime contribution towards providing nascent engineers a platform to showcase and present their interest, depth and research on a topic of their interest. Hence it has evolved as a NATIONAL LEVEL event, providing budding engineers across the country to outsmart the rest by their ideas.

NATIONAL LEVEL PAPER PRESENTATION

RULES:

1. B.E and M.Tech students with valid college ID card are allowed to present paper.

2. College ID card is compulsory during the presentation.

3. A paper may comprise a maximum of 4 authors but only a maximum of 2 people are allowed to present the paper.

4. Participants should carry 3 photocopies of their paper and also softcopy of the paper along with a power point presentation.

5. Abstract and paper must be compulsorily in standard IEEE format.

6. Only one paper can be submitted by a team. Submission of more than one paper can lead to disqualification.

7. Participants from different institutions can also comprise a team.

8. 2022 passed out students can apply as well

ROBOTIC EVENTS

AERO NAUTICA

AERO NAUTICA

GENERAL RULES

- Contestants will have to register their team name and details in the registration desk. If the participants are delayed in registering their teams within the specified time, they will be disqualified with no compromise
- Every member of the participating teams must carry valid student ID cards of their college which they will be required to produce at the time of registration.
- A team may comprise a maximum of four participants.
- A team can comprise students from different colleges/teams.
- A team is NOT permitted to compete with more than one bot.
- There are no restrictions on number of teams from a college.
- The event organizers reserve the right to stop the match at any point of time if they deem that the match is turning out to be dangerous.

AERO NAUTICA

EVENT FORMAT

- Round 1: Obstacle course. The points will be initiated from 0. For each successful passing of the obstacles, 5 points will be awarded. If the drone touches the obstacles, 2 points will be deducted.
- Bonus point of 2 points for quickest time and perfect landing.(1 point for quickest timing and 1 point for perfect landing)
- Round 2: Obstacle course with more number of obstacles and certain targets with rules same as round 1.

AERO NAUTICA

EVENT RULES:

- A team of maximum 4 members is allowed.
- A total of 2 rounds will be held.
- It may vary depending on the number of participants.
- Also, no participants are allowed inside the arena.
- Trial run or practice in the arena is not allowed.
- The organizing team holds all the right to change any or all rules, and conditions declared according to anyone from the organizing committee.
- If any fraudulent behavior from any team is noticed in terms of model specifications or wrong information provided by any other the organization holds the power to disqualify or deregister the team without being answerable to anyone. You are advised to keep a pair of charged batteries.
- Any change in the problem statement would be notified to the participants. The decision of organizers will be final and binding on all.
- The organizers are not responsible for any damage to the drones caused during the race.

AERO NAUTICA

ARENA SPECIFICATIONS

- The dimension of the arena will not exceed 25x25(in metres).
- In this specified dimension, the obstacles will be arranged as per the event organisers.
- A white line will be drawn to specify the dimension of the arena and participants will not be allowed to cross this white line border. The participants can make a follow up with the bot only in the outskirts of the white line.

DRONE SPECIFICATIONS

- Dimension of the drone should not exceed 30 cm x 30 cm x 15 cm (l x b x h).
- Frame size should be between 20 cm to 30 cm
- Battery or power supply should not exceed 6S or 24V
- Wing type: Only Rotary
- Max Take-off weight: 2.5 kg
- Minimum endurance: 10 to 15 minutes
- Must be operated in Line of sight.
- The radio telemetry should be 900MHz to 2.4 GHz.
- Markings for the head of the drone must be done by the participant.
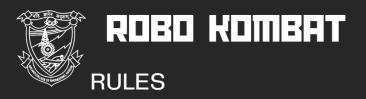- Ready-made drones are not allowed.

ROBO KOMBAT

ROBO KOMBAT

RULES:

- Contestants will have to register online. On spot registration can also be done.
- A team can consist of a maximum of 5 members.
- The bot has to be submitted to organizers 90 min before the event.
- The machine would be checked for safety during registrations. In case of unsafe bots, the team will be allowed to modify the bot within 90min. If the team fails, it will be disqualified.
- Only three persons(team members)are allowed to take part in the competition(within the demarcated area): one will control the bot, another will control weapons and third one will help with the control wires.
- The wire coming out of the bot should be contained in a pipe (or other alternatives). Any kind of exposed wiring should be held together by cello tape.
- Any kind of damage to the arena will not be entertained, a warning will be given and if done after the first warning, the robot will be disqualified.
- All the required accessories have to be bought by the participants. The robot should not vary for each round.
- No technical assistance will be provided by the coordinators during the time of the event.

ROBO KOMBAT

RULES

- No practice runs will be provided.
- Provision must be made by the participants to show the internal circuit when demanded by organizers for inspection.
- Jumping and hoping are not allowed.
- This is an open event.
- ONLY **WEDGE BOTS AND DRUM BOTS** ARE ALLOWED.

Robot Specifications(Wired)

- The maximum dimensions of the bot should not exceed 600mmX600mmX600mm(+5%tolerance)(excluding remote controls and control wire).
- Weight of the robot should not exceed 50 kg (+-10% tolerance is allowed) (including remote controls and control wire).

Robot specifications(Wireless):

- The maximum dimensions of the bot should not exceed 600mmX600mmX600mm (+5% tolerance) (excluding remote controls and control wire).
- Weight of the robot should not exceed 50 kg (+-10% tolerance is allowed) (including Battery, excluding Remote control and Control wires).

ROBO KOMBAT

ROBOT CONTROL REQUIREMENTS

- The robot can be wired or wireless. For wired robots, all the controlling wires should be bound into a single strip and properly insulated for at least 3 cm in length from the robot base. It shouldn't get tangled with the opponent's wires. For wireless robots, use a four-frequency remote control circuit or two dual control circuits to avoid the interface.

- Remote controls that are readily available in the market may also be used with suitable modifications if needed.

- The teams should pair up the wireless remote with the machine before putting it into the arena.

- In the case of wired bots, the wire should be at least 10 m long and 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.

- The wire coming out of the bot should be contained in a pipe (or other alternatives). Any kind of exposed wiring should be held together by cello tape.

- Only three persons (team members) are allowed to take part in the competition (within the demarcated area): one will control the bot; another will control weapons and third one will help with the control wires.

ROBO KOMBAT

BATTERY AND POWER:

- The bot should be self-powered with a battery not exceeding 48v. In case higher voltage is being used for weapons, please get the approval from organizers before that leads to disqualification.
- Battery should be properly protected from external damage.
- Immobilized electrolyte types (such as gel cells, lithium, NiCad or dry cells) are not allowed.
- 230-volt AC source will be provided. Teams have to bring their own battery eliminators.
- Also multiple rounds may be conducted back-to-back so the batteries are advised to be kept fully charged with backup batteries.

ARENA SPECIFICATIONS:

- Combat arena specifications: 10x10 ft roughed steel battle surface, surrounding 8 feet height mesh protection.
- Participants have to get helmets for protection.

ROBO KOMBAT

TEAM REGULATIONS

- Teams of 2–5 Members.
- Multiple number of teams from same college are allowed
- The participants must carry valid student ID or Company ID cards of their college/company which they will be required to produce at the time of registration.
- An individual cannot be a member of more than one team
- A robot cannot be shared by two or more teams
- The robot should follow the specifications provided. Any deviation from the mentioned specifications will lead to direct disqualifications
- Both wired and wireless bots are allowed
- Structural Integrity of the bot should be maintained. Changes to structure between matches are not allowed.
- Bots with wired controls should have dedicated person to hold the wires and prevent it from entangling
- Wireless radio controllers shouldn't interfere with opponent's transmitter
- The decisions made by the Judge panel will be final .

ROBO SOCCER

ROBO SOCCER

GAMEPLAY:

- This is a 1 on 1 type of game.
- The balls used will be a tennis balls.
- Robots will be placed in different halves of the arena with ball in the center of the arena.
- Each team will try to score a goal by pushing the ball.
- Team with the greater number of goals wins the match.
- If the ball goes out of the arena, it will be placed in the center and the match will resumed.
- In case of a tie, a penalty time of 2 more minutes will be given.
- If the tie is not yet broken, 3 penalty kicks will be provided. The robot has to hit/strike the ball (placed on the penalty line of the arena) such that the bot should not cross the penalty line while striking the ball.

ROBO SOCCER

ROBOT SPECIFICATIONS:

- The following size limitations apply for each robot, including whatever kick mechanisms the bot have:
- Width – 300mm max
- Length – 300mm max
- Height – 300mm max
- An error of (± 5%) is permitted.
- Weight: 5 kg (Tolerance of ±5 %)
- The robot cannot have a potential more than 12V between any two points.
- The external device, which is used to control the machine, is not included in the size constraint.
- The machine can be wired/wireless.
- The machine must not be made from Lego parts, or any ready-made assembly kits, however participants are allowed to use their own creativity for the kick mechanism.

ROBO SOCCER

- The robot can be powered by a source such as a battery fixed on the robot or by a stationary power source connected to the robot by a cord.
- Participants should keep spare batteries. If they require any power supply or batteries, it should be informed 3 days prior (prior to the date of Enigma). If this is not informed to the organizers earlier and any new scenes created regarding this will lead to invitation of penal action as decided by the event organizers.
- The length of the wire (for wired bots) should be long enough to cover the whole arena and wire should remain slack during the complete game.

ARENA DIMENSIONS

- The arena is made up of plywood of dimensions 8 feet in length and 6 feet in width.
- The arena has a 40 cm wide goal post on either side.
- The arena is bounded from all sides.

ROBO SOCCER

RULES & REGULATIONS

- A team can have a maximum of 4 members and minimum 2 members.
- Only 2 members of each team may be present at a time in the arena. All other team members must remain outside the game zone.
- Once the weight of bot is finalized no modifications in the weight will be allowed
- Weight of the bot will be checked before the start of each match.
- Each team will be given a time span of 2 minutes at the beginning of each half to make any changes or modifications to the bot (modification in weight is not allowed)
- Every match will consist of 2 rounds of 2 minutes each and each subsequent round will have a time gap of 1 minute.

ROBO SOCCER

JUDGING CRITERIA:

- For each goal scored by a team, 4 points will be awarded.
- If the bot damages the arena or the opponent bot (major damage), 2 points will be deducted
- A warning will be given for not following the rules after which 2 points will be deducted for every warning
- The winner shall be declared on the basis of the points scored.
- The opponent team must be treated with the sportsmanship spirit. Non compliance of this rule shall invite penal action which is decided by the organizers.
- In case of any argument, any chaos or any confusion in between the event, the organizers decision will be ultimate and no further compromise will be held on the topic.

MYSTIQUE LOCOMOTOR

MYSTIQUE LOCOMOTOR

MACHINE SPECIFICATION:

- Machine should fit in a box of dimensions 300 mm x 300 mm x 300 mm (l*b*h) at any moment. The external device which is used to control the machine is not included in the size constraint.
- The machine should be controlled by a wired/wireless remote-control mechanism throughout the race.
- Weight of the bot should be under 3 kg with +5% tolerance including battery if powered on board.
- The machine must not be made from Lego parts or any ready-made assembly kits other than the parts mentioned below.
- The machine may consist of Gears, Differential gears, springs, shock absorbers, servo motors, batteries, wheels, wheel hub, Belt drives, and Chain drives are allowed.

MYSTIQUE LOCOMOTOR

TRACK SPECIFICATIONS:

- The track will be an all-terrain track with sharp turns and jumps. The machine should be able to cross bumps, and rough patches on the track.

- Although organizers make efforts to maintain the track's quality, it is inevitable that the track will undergo wear and tear from the machines running on it. As a result, the machines must be able to perform well on the weakened track.

- Track may consist of the following obstacles: Any type of rough terrain like Sand path, Sack Bridge, Slippery surface, Gravel, Small bumps, Ramps, Hole traps, Bridges, Valleys, etc.

- AC power supply of 240 volts will be provided. The machine must use only mechanical power generated by DC motors. Use of any other sources such as IC Engines, chemicals, compressed gas, rockets, etc. is not allowed.

- The machine will be inspected and if found to be dangerous, the team will be disqualified. This decision rests solely with the judges and the organizers.

- Use of pneumatic and hydraulic tools is not allowed.

MYSTIQUE LOCOMOTOR

RULES:

- All the team members must be full-time students at an accredited University/college
- Only students from the same college can form a team
- Individual cannot be a member of more than one team.
- Robots cannot be shared by two or more teams.
- The machines must undergo bot check by the organizers 90 minutes before the event.
- Only one person can control the machine and one person can stay near the arena for monitoring the machine (Includes electrical)
- Participants must keep spare batteries. If power supply or batteries are required pertaining to this, it should be informed 3 days prior to the event. If not informed to the organizers, it will lead to immediate disqualification.

MYSTIQUE LOCOMOTOR

RULES:

- The track will have check points at regular intervals. If a bot tumbles, or halts, or goes off the track at any point, one of the organizers will reset the bot to the previous checkpoint. The time shall still be running in the meantime.
- If the bot is unable to pass through any obstacle, the bot will be permitted to skip the obstacle (with the operator consent) with a penalty of 90 seconds, to the time taken by the bot to complete the whole track. The machine is allowed to skip only one obstacle throughout its course around the track.
- Team members are not permitted to touch their machines during the race. In case of any minor damage to the bot, the team members will be permitted to repair their bot.
- If there are any technical issues, a 30-second time frame will be provided for repairs, and if the repairs exceed the allotted time, the timer will be resumed.
- The machine which reaches the destination in the least time will be declared as the winner.

MYSTIQUE LOCOMOTOR

SCORE CALCULATION:

- It will be as follows,
- SCORE = Time taken to reach the finish line + penalty
- Organizers will not provide any kind of accessories during or before the event.
- Only the participants of the team whose match is on are allowed to stay near the arena during the event and if there are any clarifications, only the participants are expected to communicate with the judges/organizers, in case any person other than participants interferes, the team will be disqualified on the spot without any further discussions.
- The organizers reserve the right to change any or all of the above rules as they deem fit.
- Violation of any of the above rules will lead to disqualification.
- The judge's decision shall be final and binding on all.

XTREME MACHINE

XTREME MACHINE

RULES:

- The students must carry a valid ID card of their college which will be required to produce at the time of registration.
- Both online and offline registrations can also be done.
- The robot can be wired or wireless.
- A team may consist of a maximum of FIVE participants.
- Only 2 members of a team are allowed to stay around the arena (for controlling and assisting) and a team is allowed to play with one robot only.
- All the required accessories have to be brought by the participants. The robot should not vary for each round.
- No technical assistance will be provided by the coordinators during the time of the event.
- Ready made toolkits are NOT allowed.
- Human interference(e.g. touching the robot) during the game is not allowed.
- The team is NOT permitted to compete with more than one bot.
- Teams will NOT be allowed to modify the bot during their trail.
- Judge's decision will be Final.

XTREME MACHINE

ROBOT SPECIFICATIONS:

- The robot should be self-powered with a battery not exceeding 24V.
- Robots powered by onboard batteries must be sealed and immobilized within a thick shell of at least 5 mm.
- Single-phase external 230V AC power will be supplied. Maximum voltage between any two points on the robot must not exceed 24VDC or 240VAC.
- All efforts must be made to protect battery terminals from a direct short and causing a battery fire.
- Failure to do so will cause direct disqualification.
- The maximum dimensions of the bot should not exceed 30cmX30cmX30cm(+5%tolerance)(excluding remote controls and control wire).

XTREME MACHINE

ROBOT CONTROL REQUIREMENTS:

- In the case of the wired robots, the wires should remain slack at any instant during the event.

IN THE CASE OF WIRED BOTS THE WIRE SHOULD BE AT LEAST 5 METERS LONG.

- In the case of a wireless system, it should have a minimum two/three frequency remote control circuit or two dual control circuits or a transmitter–receiver paired module so that the frequency interferences with the opponent team can be avoided.
- The teams should pair up the wireless remote with the machine before putting it into the arena.
- Remote controls that are readily available in the market may also be used.

SPUDZOOKA

SPUDZOOKA

RULES:

- Spudzooka is a team event. Each team shall have a maximum of three members.
- Participants from different institutions can also comprise a team.
- A participant can be a member of only one team.
- Participating team must have a brief idea about the design and working of the model.
- There is NO elimination of teams in transition rounds.
- Winning team will be declared on the basis of cumulative points earned by the team.
- Any modification in the design of spudgun is allowed (Eg: LASER pointer , Stand etc).
- Failure of any spudgun during the event will be disqualified.

TIPS AND HINTS FUEL:

- In case of combustion based spudguns ,Fuels in liquid and gaseous states are allowed. Solid fuels such as gunpowder or crackers are not allowed.

SPUDZOOKA

PROJECTILE:

- Teams should bring their own projectiles. Please note that the projectile should not be hard like Golf Ball. Tennis balls are allowed. If at all customized projectiles are made e.g.clay/plaster of Paris, paper balls, wet paper balls, etc ball they must be wrapped in sufficiently thick cloth before firing as the cloth provides necessary packing inside the barrel. Make sure you have enough projectiles(20-30 in number)if they are destructible.

SPARKING:

- Kitchen Gas Lighters, BBQ lighter, flint wheel lighter used in cigarette lighter, etc are good sparking agents.

PAPER EVENTS

IN-QUIZ-ITIVE

IN-QUIZ-ITIVE

Every even semester The Malnad Technical Club organizes a state level Technical fest called ENIGMA and one of the key events is INQUIZITIVE, which is basically a Technical Quiz. This event mainly aims to excavate the technical knowledge of the participants and their exposure towards new technologies.

This event of ENIGMA'23 has two rounds and each team should have two members. Prelims is a written test containing 30 questions, which are based on general technical aspects. 5 teams are selected for the finals. The finals are conducted on 4th of June which has 4 rounds namely, General round, Rapid fire round, Buzzer round and Audio-Visual-Video round. After the rapid fire round, the team with the least score gets eliminated.After the buzzer round, the subsequent team with the lowest score gets eliminated.

IN-QUIZ-ITIVE

RULES TO BE FOLLOWED :

ROUND 1 :
GENERAL ROUND

- This round consists of 5 questions with 4 options in each topic. (3 topics)
- Participants should choose one among the 4 options.
- For each correct answer, the team gets +5 points and 0 for incorrect answers.
- No negative marking and if the first team fails to answer then the question is passed to the 2nd team and gets +3 points in case of correct answer.
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ROUND 2 :
RAPID FIRE ROUND

- Each team will have a duration of 1 minute to answer 5 rapid-fire questions.
- +5 points for correct answer and 0 for incorrect.

IN-QUIZ-ITIVE

ROUND 3 :
BUZZER ROUND

- Consists of 6 questions.
- Each team is given a buzzer and whoever presses it first will be given a chance to answer first and gets +5 points in case of a correct answer
- If the first team fails to answer, then the question is passed to the 2nd buzzed team which gets +3 points in case of correct answer.

ROUND 4 :
AUDIO-VISUAL-VIDEO ROUND

- Each team will receive a prompt that may include multimedia elements, such as an image, video, or audio file.
- For each correct answer, the team gets +5 points and 0 for incorrect answers.
- No negative marking and no passing of the question.

INGENIUM

INGENIUM

1. B.E students with valid ID cards can participate.
2. Number of participants in each team must be a maximum of 4 or minimum of 2 participants.
3. The first round will be a preliminary test which will be based on basic engineering concepts.
4. Shortlisted teams will enter the next round for which details will be revealed during the event.
5. During the second round, all participants in the team must be present.
6. Participants are not allowed to use their mobiles or any other electronic gadgets during the event.
7. Once the team gets registered, replacement of any participant in the team is not allowed.
8. Any evidence of malpractice or violation of above rules will lead to the spot elimination
9. Organizing committee has all the rights to do any modifications.
10. The judge's decision shall be the final.

RESONANCE

RESONANCE

1. The event is all about calculating the level of understanding between two friends.
2. The event consists of 2 rounds.
3. Number of participants in each team must be 2 .
4. First round will be a written test where two friends will be seated in different classrooms and will be asked the same questions about each other.
5. Shortlisted teams with highest scores in the first round will enter the final round for which details will be revealed during the event.
6. Participants are not allowed to use their mobiles or any other electronic gadgets during the event.
7. Once the team gets registered, replacement of any participant in the team is not allowed.
8. Any evidence of malpractice or violation of above rules will lead to the spot elimination
9. Organizing committee has all the rights to do any modifications.

MEGASTRUCTURE

MEGASTRUCTURE

1. Maximum 3 participants can be in a team.
2. Only the materials provided by the organizers should be used.
3. The participants are allowed to use mobile phones during the event.
4. The topic will be provided on the spot.
5. The duration of this event is 3 hours.
6. The decision of the judges will be final.
7. Organizers hold the rights to change the rules at any point of time during the event and the decision will be final.

FACTUAL REEL

FACTUAL REEL

1. Submission of your video should be done before 4th of June 2023

2. Video length should be under 1 minute

3. The video should be done based on the theme provided

4. Should use your own video footage only

5. Any copied videos if found will get disqualified

The Landmark of Technology.

PLAYBYTES

PLAYBYTES

PlayBytes is an exciting and engaging competition that celebrates the world of computer science! This event is designed to inspire participants from all backgrounds and skill levels to explore the fascinating realm of computer science through a series of challenges, activities, and competitions.

PlayBytes offers a platform for students of any branch to showcase their knowledge, problem-solving abilities, and coding skills. Whether you're a computer science enthusiast or just curious about the field, this event is the perfect opportunity to immerse yourself in the captivating world of technology.

PLAYBYTES

RULES:

- The event is open to students of any branch, with valid ID cards
- The event consists of 1 round.
- Participants compete individually.
- Participants must adhere to the rules and guidelines set forth for each specific challenge.
- Participants must register in advance to participate in the PlayBytes event.
- Registration details, including deadlines and procedures, will be communicated through official channels (website, social media, etc.).
- Any additional registration requirements specific to certain challenges will be clearly stated.

PLAYBYTES

RULES:

- Participants must follow the instructions provided by the event organizers and comply with their decisions.
- Questions will cover topics related to computer science and C programming.
- Participants will have a total of 60 minutes to complete the round.
- Mobile phones or any electronic devices are strictly prohibited during the event.
- Any evidence of malpractice or violation of above rules will lead to the spot elimination
- Organizing committee has all the rights to do any modifications
- The first to complete the contest will be declared as winner

FOR MORE DETAILS: CONTACT

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