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| --- | --- | --- |
| 1 | PROJECT PRESENTATION | 5000+3000+2000 |
| 2 | MAZE SOLVING ROBOT | 12000+8000+5000 |
| 3 | PICK AND PLACE TASK | 10000+7000+3000 |
| 4 | AQUA MISSILE | 8000+5000+3000 |
| 5 | PIT LANE | 3000 |
| 6 | CONCEPT CAR DESIGN | 5000+3000 |
| 7 | CAD MASTER | 5000+2000 |
| 8 | MACHINE ASSEMBLY | 5000+3000 |
| 9 | LATHE MASTER | 5000+2000 |
| 10 | AUTO SHOW | 18000 |
| 11 | ROBOTICS\* | 16000 |
| 12 | SAE COLLEGIATE CLUB\* | 10000 |
|  | Amount needed for conducting events | 12000 |

**EVENTS / STALLS**

\* Stalls & Expert Talks

1. **PROJECT PRESENTATION**

**Introduction:**

“Scientists investigate that which already is; engineers create that which has never been.” - Einstein

Have that top notch idea that can bring about a sensation in the world of technology? Believe that can you tackle the grueling questions thrown at you by our eminent arbitrators and emerge victorious? Then the stage is waiting for you at Agnitus to enlighten the world about your own unique idea!

**Event format:**

The event provides engineering students with a platform to present their innovative projects in front of a panel of judges.

**Short listing of papers:**

* The participants must send the abstract of their papers to [agnitus2k14@gmail.com](mailto:agnitus2k14@gmail.com)
* The shortlisted participants will be notified via e-mail.

**Judging criteria:**

The judgment will be based on the following criteria:

* Originality and innovation
* Technical content
* Clarity of presentation
* Practicality of application

**General Rules:**

* The paper must be presented by an individual or a group of Max of four. Any number of teams from a college can submit their projects.
* Participants are not allowed to submit more than one paper.
* The abstract should be submitted in Microsoft Word(.doc or .docx) or Printable Document Format(.pdf) only.
* Kindly mention your names, e-mail addresses and contact numbers in the abstract that you submit.
* The selected participants are to prepare a presentation in Microsoft Power Point (.ppt) format.
* Each entrant will be given 15 minutes to present the paper. This will be followed by a Q&A session.
* Exceeding the time limit will invoke negative marks.
* Participants can include media content in their presentation, provided they do not show any controversial or objectionable material.
* Selected participants are required to carry the identity card or bonafide certificate of their institution.
* The decision of the judging panel will be final and binding.
* Team Agnitus has the rights to change the rules and regulations as and when required. Changes, if any will be updated in the website.

**Prize**

1st PRIZE – 5000 INR

2nd PRIZE – 3000 INR

3rd PRIZE - 2000 INR

**Contacts :**

Event Head - Amal Hisham (+91 8891596360)

Event Co-ordinators - Prasanth Shenoy (+91 9946431779)

Nithin E P (+91 9400571716)

1. **ROBOSOLVIC VICTISSAE**

Line Tracing Robot

**Introduction:**

Have that stunning bot that can traverse through anything put in its path? For all those who are tired of straight paths, the ultimate track is waiting for you at Agnitus.

**Problem Statement:**

Solve the line maze (black line on white background) using an autonomous mini robot and reach the destination within shortest span of time.

**Rules:**

* Participation can be as an individual or as a team comprising a maximum of 4 members. All participants must carry a valid college identity card.
* The robot has to be developed and designed by the team itself. The usage of commercially available modules is allowed, but it is forbidden to use a complete robotic-system which is sold ready for the purpose of the competition. At least the software-development should show significant personal effort.
* The robot must fit on an A4 piece of paper. There is no weight limitation. Robots must have passed inspection prior to competing.
* The time of any run is measured from the instant the robot crosses the starting line until the time it crosses the finish line. A robot is deemed to have crossed the line when any wheel, track, or leg of the robot contacts or crosses over the line.
* Energy sources like springs, compressed-air, batteries, etc. are permitted. Combustion engine powered bots are not allowed.
* The robot has to have an easily reachable emergency stop button which interrupts the power supply of the actuators. On demand of the jury or in imminent danger, a team member has to stop the robot immediately.
* Timekeeping: time shall be measured by an electronic gate system or by a judge with a stopwatch, based on the availability of equipment. In either case the recorded time shall be final.
* Robots have to operate autonomously and may not be remote-controlled. All systems (like sensors, power supply, data-processing and control-systems) have to completely reside on the robot.
* A robot that wanders off of the arena surface will be disqualified. A robot shall be deemed to have left the arena when any wheel, leg, or track has moved completely off the arena surface.
* Losing the Line: any robot that loses the line course must reacquire the line at the point where it was lost, or at any earlier (e.g. already traversed) point.
* Robots have to stay on the ground. They may not fly or jump.
* Robots must not damage the tournament area.
* All kinds of weapons (saws, lasers, electroshocks, hammer) are strictly forbidden.
* Claims because of changing lighting conditions in the room or flash lights of photographers won't be accepted. Participants have to face these "disturbances".
* Equipment which harms or disturbs another robot (e.g. jammer, light flash, interfering ultrasonic or infrared transmitter) are forbidden. Disturbances or assistance caused by intervention of humans during a competition are forbidden, as well.
* The decision of the judging panel will be final and binding.
* Team Agnitus has the rights to change or modify the above rules as deemed required. Changes, if any will be updated in the website.

**Judging**:

1. Scores are awarded on the basis of speed, efficiency of maze solving, and self-reliance of the mouse bot.
2. The total sores can be computed as:

**[50/T1]+[200/T2]-E-10P** where T1 is time taken to reach the destination, T2 is the return time, E is the number of errors committed by the bot while returning and P is the touch penalty for manual assistance.

1. Three teams with the highest scores will be declared winners.
2. The judges have the right to ask the operators to explain the functioning of the mouse.

**Prizes:**

First prize: 12000 INR

Second prize: 8000 INR

Third prize: 5000 INR

**Contacts:**

Event Head - Adarsh Dinesh (+91 9061204323)

Event Co-ordinators - Vishnu Jayan (+91 7736363993)

* Ajith K R (+91 9446744500)

1. **TRANSPORTO MACHINO**

**Pick and place robot**

**INTRODUCTION :**

Engineering is the branch of science that deals with creating shortcuts for the laziest of living beings -us humans! Man, from the time wheel was invented, is trying to simplify efforts to accomplish tasks. We at Agnitus salute this laziness that has led to many inventions that make our life convenient! It’s time to create that wonder bot that can tackle any pick and place task.

**Problem Statement :**

With the aid of an autonomous or remote controlled (could be wired) machine, pick the blocks given, carry and place it at the destination within the specified arena in the shortest span of time.

**Block specification :**

There will be 10 cylindrical wooden blocks, each having a base diameter of 4 cm and height 8 cm, and an approximate weight of 150 g (within 10% error). All blocks will have a metallic semi-circular ring (of non-magnetic material) on the top.

**Robot specifications:**

* The machine must fit in a box of dimension 0.35m x0.25m x 0.5m.
* The dimension constraints mentioned above are only for machines and does not include external wired/wireless remote control or external power source.
* Machines can expand or detach into multiple parts, provided it does not damage the arena in any way. Machines will be disqualified if they damage the arena.
* The machine should not have been constructed using readymade Lego kits or any readymade mechanism. However, the use of readymade gear assemblies is permitted. Violation of this clause will lead to disqualification.

**Robot propulsion:**

* The machines can use external or on-board electric or non-electric power sources. Use of compressors is not allowed. The power supply must be non-polluting and must comply with the safety standards set by the judges. If a non-electric power source is used, kindly get the approval of the organizers by e-mail.

The following e-mail address may be used for the same: [agnitus2k14@gmail.com](mailto:agnitus2k14@gmail.com)

Organizers are not responsible for inconvenience caused if approval is not sought.

* The method of propulsion is at the discretion of the builder, provided it does not damage the arena and satisfies the safety constraints set by the judges.
* In case of electric power supply, the voltage at any point on the machine must be lower than or equal to 12V.
* The organizers will provide a standard 12V, 1A DC power supply. Any extension cords, eliminators, adaptors etc. required should be arranged by the participants themselves.

**Robot controls:**

* The machine has to be necessarily controlled by some wired/wireless remote control mechanism at all stages of the game.
* In case of wired mechanism, the wire must be slack at any point of time during the game. The total length of wire extending from the remote control to the machine must be a minimum of 3 meters.
* If the Machine is using an external wireless remote control, make sure that it has sufficient range, and that it can control the machine well without any lag.

**General Rules:**

* The teams must uphold the spirit of the event and must not damage opponent’s machine in any way.
* A team can have a maximum of four members. Inter-college teams are permitted.
* All participants must carry a valid college identity card (or bonafide certificate).
* The machine will be checked for its safety before the event and will be disqualified if found unsafe for other participants and spectators.
* The name of the machines must be prominently displayed on them.
* Judges' decisions shall be treated as final and binding on all. Judges reserve the right to disqualify any team indulging in misbehavior.
* Team Agnitus holds the rights to change or modify any of the above rules as and when required. Changes, if any will be highlighted in the website.

**Prize :**

First prize: 10000 INR

Second prize: 7000 INR

Third prize 3000 INR

**Contacts:**

Event Head - Rahul Rajan (+91 9961939546)

Event Co-ordinator - Sajin OC (+91 9809927257)

Varun Ramakrishnan (+91 8891805714)

1. **AQUA ALTURA:**

**Introduction:**

Water has the power to reshape the globe and wipe off human existence. Let’s create an aqua missile to blow away the imaginations of onlookers at Agnitus. We know it sounds simple. Wait till you try creating one!

**Problem statement:**

The participants are required to design and build a single stage water rocket and its launcher. The rocket can be launched at any angle with respect to the horizontal.

**Rules:**

* A team can comprise a maximum of 3 members. Inter-college teams are permitted.
* Only plastic soft drink bottles, of maximum capacity 1.5L, are to be used for the rocket body.
* The water rocket must use only compressed ambient atmospheric air as its source of energy. Pressure compressors (foot pump) shall be provided. Water brought by the team shall not be allowed in the rockets, it shall be provided as well. The amount of water to be filled in the rocket body is left to the choice of the team.
* The pressure inside the container (rocket body) before launch should not exceed 60 psi.
* Launchers will NOT be provided by the organizers. Each team must have their own launcher.
* The rocket must be launched from a stationary position using a fixed launcher. Slingshots, trebuchets, catapults, cannons, and all other forms of launcher boost assists are forbidden. In other words, the internal pressure of the rocket must be the only source of energy for the rocket.
* A team may be disqualified if:
  + Any rocket is found to be dangerous by the organizers and judges.
  + A rocket blasts before the launch.
  + A rocket launches before indication by the organizers.
  + Any part of the rocket breaks off from the rocket during the flight.
  + Any ready-made models are used.
  + Any design rule is not abided by the participant.
* Decision of the judges is final and binding to all.
* Team Agnitus reserve all rights to change any of the above rules as deemed fit. Changes in rules, if any, will be highlighted on the website.

**Judging criteria :**

The event will be held in two rounds-

**Round 1: qualification round**

The task is to cover maximum horizontal distance.

* The arena will be a 30 degree sector with a straight line cutting it into two halves. Scores will be deducted for deviation from this line on landing.
* The place where the tip of the bottle falls will be considered for scoring.
* Two trials will be given to the participants. For this round, the greater of the distances covered in the 2 trials will be considered.
* Participants are allowed to use different rockets for this round.
* The teams which successfully cross 50m will be eligible for the finals.

Qualification round score, Sq= 50(L-50)-30D

L=distance travelled by the bottle

D=deviation from centre line

**Final round:**

The task is to hit the bull’s eye of target on an inclined plane to score maximum points.

* The launch point will be 60m away from the centre of the target.
* Three trials will be given to each team and the best score will be considered as final round score.
* The participants are allowed to use different rockets for both the trials.
* The team with the highest score according to the judging criteria will be declared as the winner.

Final round score, sf =300A

A= 1 for 5th circle

2 for 4th circle

3 for 3rd circle

4 for 2nd circle

5 for 1st circle

Total score = Sq + Sf

**Prizes:**

First prize: 8000 INR

Second prize: 5000 INR

Third prize: 3000 INR

**Contacts:**

Event Head - Rohit Babu (+91 9495433650)

Event Co-ordinators - Viswajith Dinesh (+91 9746913213)

Pramith M (+91 9995749397)

1. **PIT LANE**

Agnitus brings you the speed, vigor and rage of the formulae motor sports in Pit Lane, an event designed not just to prove your agility and precision, but tailor cut to bring forth that stunning mechanic in you.

**Event Description:**

The event includes the perfect and fast interchanging of rear wheels in the smallest possible time. There will be three nuts placed diagonally that is to be removed to change the tyres with the spare ones given to you.

**General Rules:**

* There should be two members in each team.
* The competition includes the perfect and fast changing of tyres in the smallest possible time.
* The team has to tighten three nuts diagonally (out of six nuts).
* The nuts should be tightened perfectly. A loose nut will lead to negative points.
* The tools for the purpose will be provided. Any improper handling of tools will lead to disqualification.
* Negative marks will be given if a team exceeds 4 minutes to complete the task.
* The maximum time allowed is 8 minutes. Exceeding this limit will lead to disqualification.
* Overall team co-ordination and working will be evaluated.
* The decision of the judges will be final and binding to all.
* Team Agnitus reserve all rights to change any of the above rules as deemed fit. Changes in rules, if any, will be highlighted in the website.

**Judging Criteria:**

* The scores will be awarded on the basis of speed, efficiency and co-ordination of work by the team members.
* The score will be computed as follows:  
  **[200/T]+0.5C-E-10P,**where,
  + T is the time taken to complete the event
  + C is the percentage of co-ordination among the team members
  + E is the negative marking for time exceeding 6 minutes
  + P is the penalty for a loose nut.
* The team with the highest scores will be declared as winners.

**Prizes:**

First Prize: 3000 INR

**Contacts:**

Event Head - Adithya Murali (+91 9496045553)

Event Co-ordinators - Sangeeth V V (+91 9400502472)

Vaisakh S S (+91 9995530215

1. **MOBELZEO D’ZINO**

True designers do not wait for the future. They bring the future to life in their imagination. Awake the designer in you and show us that beast which will rule the roads of tomorrow!

**Event format:**

* Participants are required to bring forth any innovative concept for a 4-wheeled vehicle.
* It may vary from design of a new spoiler to a whole new car (left to the participant’s discretion).
* Participants are required to send their abstracts to [agnitus2k14@gmail.com](mailto:agnitus2k14@gmail.com) by 6th February.
* The participants selected for the presentation round will be notified via e-mail.
* Kindly provide your names, e-mail addresses and contact numbers along with the abstract.

**Rules and regulations:**

* There will be a maximum of two members in a team. Only one entry is allowed per team.
* Selected participants are required to carry a valid identity card (or bonafide certificate) of their institution.
* The participants selected for presentation must prepare their presentations in Microsoft Power Point (.ppt) format.
* The time allotted for presentation is 10 minutes which will be followed by a Q&A session.
* The participants can use any standard design software (AutoCAD, 3DsMax, Catia, Pro-E, Rhino, Alias and Solid Works only) or hand drawn sketches.
* The participants have to bring a minimum of two hard copies of their design. The hard copy is expected to contain the required supporting textual contents.

**Prizes:**

First prize: 5000 INR

Second prize: 3000 INR

**Contacts:**

Event Head - Rohit C (+91 9562128126)

Event Co-ordinators - Rahul R N (+91 9567678586 )

Rohith Ramesh (+91 9496091324)

1. **CAD MASTER:**

**Introduction:**

Alter the given drawing to the prescribed dimension provided during the contest to emerge as the maestro of Computer Aided Designing.

**General rules:**

* This is not a team event.
* Participants are required to bring a valid college identity card.
* No external help can be sought.
* In case of excess number of participants, a preliminary elimination round may be held.
* The participants are supposed to draw on any version of Auto CAD software allotted to them alone.
* No extra time will be allotted under normal circumstances.
* Maximum time allotted for the event is one hour.
* The decision of the judges will be final and binding to all.
* Team Agnitus holds the rights to change the rules as and when required. Changes, if any will be highlighted in the website.

**Prizes:**

First prize: 5000 INR

Second Prize: 2000 INR

**Contacts:**

Event Head - Amal M (+91 9744599790)

Event Co-ordinators - Sarathlal (+91 9447397102)

Shijil T (+91 9544736026)

1. **MACHINA ASAMBLEA**

Machine assembly

**Introduction:**

Believe spanners are part of your fingers? Then show us how much Mech runs through your blood. We provide a machine you are well versed in, but disassembled. Just put it back and make it work.

**Problem statement:**

Assemble the given machine components to form a working machine.

**General Rules:**

* This is a team event. A team can comprise two to three members.
* In case of excess number of participating teams, a preliminary elimination round may be held. It will be an objective written quiz.
* Participants must bring valid college identity cards (or bonafide certificates).
* Any sort of external help is prohibited.
* Use of electronic devices is prohibited.
* Extra time will not be allowed under usual circumstances.
* Participants are allowed to use only the tools that are provided to them. They are not allowed to carry any tools along with them.
* Discussion with other teams will lead to disqualification.
* Decision of the judges is final and binding to all.
* Maximum time allotted for the event is three hours.
* Team Agnitus reserves the right to bring about changes to the above rules if necessary. Changes, if any will be highlighted on the website.

**prizes:**

First prize: 5000 INR

Second prize: 3000 INR

**Contacts:**

Event Head - Anas T K A (+91 9497295295 )

Event Co-ordinators - Sujith C (+919567894188)

Sarath E V (+91 9539915293)

1. **LATHE MASTER:**

**Introduction:**

“a designer knows he has achieved perfection not when there is nothing left to add, but when there is nothing left to take away.”

-Antoine de Saint-Exupery

**Problem statement :**

Machine the given work piece to the prescribed shape and dimensions given on-spot during the contest on a 4 jaw chucked semi-automatic lathe.

**General rules:**

* This is an individual event.
* Participants are required to bring a valid college identity card.
* No external help can be sought.
* In case of excess number of participants, a preliminary elimination round may be held.
* The participants are supposed to work on the lathe allotted to them only.
* No extra time will be allotted under normal circumstances.
* Maximum time allotted for the event is three hours.
* The decision of the judges will be final and binding to all.
* Team Agnitus holds the rights to change the rules as and when required. Changes, if any will be highlighted in the website.

**Prizes:**

First prize: 5000 INR

Second prize: 2000 INR

**Contacts:**

Event Head - Mridul K P (+91 8891395328)

Event Co-ordinators - Unais M C K (+91 9961142414)

Rijul K (+91 9567472088)

1. **AUTO SHOW**

Raging cars, speeding bikes, stunning converts. It’s all raining here at Thalassery on the eve of the 11th of February. All are welcome to witness the grandest Auto Show that Kannur has ever seen.

Rules:

All registrations should be made on or before 9th Feb.

The entry fee will be:

3000 for cars

1000 for bikes

1. **ROBOTICS**

1. **SAE COLLEGIATE CLUB**