REPORT

ON

ENGINEER

**Computer events:-**

1. **INSCRIPTION :-**

Inscription is the international online programming contest of Engineer. The contest consists of a set of challenging problems to which solutions need to be submitted which adhere to time constraints. Programming, debugging and fine-tuning skills are tested to the very hilt. The contest is now an individual event and was hosted on code chef last year.

1. **CODE KOMBAT**

Code Kombat is an Artificial Intelligence programming contest. It is an online event. Each team has to program their virtual bots to play a certain game. Bots programmed by different players have a face-off in a quest to be the ''smartest'' bot. People participate in this contest in teams of 2.

1. **RECTIFY**

Rectify tests your hunting instincts. If you think you have  a sharp eye and the instincts of a predator programmer, then come and hunt for the errors in our  codes. This event not only tests the mastery over and familiarity with a programming language but also your dexterity in analyzing problems and providing logical solutions. It is an individual event.

1. **MARATHON**

Marathon is an event that inculcates multiple tasks of varying difficulty covering all fields of computer science from basic programming, scripting, to operating systems and networks. In the previous edition of Engineer, Marathon was planned to be more challenging, which tested the mind of the participants with the latest developing technologies in the field of Computer Science. After all, Computer Science is the fastest  growing and the fastest changing area of Engineering. Spread over all of Engineer, participants are given the opportunity to make up for one bad day, as well as test  how long one can persist solving the trickiest (and most often the simplest) computer science problems thrown at them! People can participate for this event in teams of three.

1. **VIRTUAL BOUNTY**

Virtual Bounty is the online technical treasure hunt of Engineer, where the divine 'Googling' skills  of the participants are put to test. Using search engines, the participants need to figure out the clues  which will take them all around the World Wide Web in order to get to the next more intriguing  level. This is a quest for the elusive treasure buried beneath billions of web pages.

**Gaming Events**

This comes under the entertainment events in which people can come and give a test to their “gaming skills”. Under the gaming events people are invited to play the world famous games in teams/individually following some particular sets of rules and regulations. The games that were open under the gaming events in the previous edition of engineer were:-

1. Age of Empires II
2. FIFA
3. DOTA
4. Counter Strike
5. NFS

**General Events:-**

These events cover up a more general field of knowledge and expertise ranging over a variety of skill testing and full of enjoyment.

This is the event to go for the people who are not well versed with technical skills.

1. **SIMPLINEER**

Simplineer is a general event during Engineer spanning all branches of Engineering. It brings all the major engineering fields together and provides a common platform to young engineers to test their knowledge and skills in their respective field. It is a team event. People can participate in teams of 3-4. It holds a screening test to select the participants for the upcoming levels which have events from computers, electronics, civil and mechanical fields.

**CIVIL EVENTS**

1. **COLOSSUS**

Structures is the spotlight of Colossus. The basis of a good structure lies in the mix of innovation, analysis, and the determination to create an identity. Every edition of Engineer offers a hands-on experience in building an innovative structure using aluminium sections with a challenging problem statement.

1. **ARCHITECT**

Civil Engineering is an art; a profession of creative ability and logic. Architect provides an opportunity for participants to unleash their innovation in designing an object of significance and splendor. This event aims to harness practical design and constructional abilities of the participants.

1. **MINDBEND**

It is a quiz event with a combination of mind boggling questions, core concepts and some really exciting rounds, Mind Bend is definitely a test of your intellect!

1. **NIRVANA**

Niravana is the platform for the people having a concern for the environment, a passion for design, a desire to innovate. The event requires participants to come up with simple, yet creative solutions to everyday design problems.

**BLUEPRINT**

Blueprint is the one of the flagship events of ENGINEER. It is the paper presentation contest held as part of Engineer attracts some of the best minds from all over the country. Participants are invited to present papers spanning various research topics pertaining to the different branches of engineering.

**METALLURGICAL EVENTS**

1. **META MAGIC**

Meta magic is an exhibition of fascinating experiments designed to amaze even the most skeptical. From Shape memory alloys to smoke bombs to walking on fluids, these dazzling displays showcase the amazing nature of materials.

1. **MINDBEND**

Mind bend is a fun quiz for those who have an undying thirst to know more about materials. It tests the participants’ knowledge of obscure and unnoticed facts about materials in an interactive and fascinating new format. In the previous edition of Engineer it was organized in the following format:-

* Prelims round consisting of crossword and short questionnaire.
* Final round between 6 teams

1. **SEM TEM EXPO**

The event’s agenda is to exhibit two Electron Microscopes which are the pride of the Department and College.

- 1 hour introductory talk

- 1 hour demo

1. **SEM & TEM PHOTOGRAPHY**

The event is a photography contest. SEM and TEM images of samples having unique features are evaluated. It has an online photo submission with description of the same.

**MOCKSTOCK**

Mock stock is an online share trading event. The game is simple; you will be given an initial capital to start off with, and you have to invest in the stocks, listed in the app, and make profits. The one with the maximum profit at the end of the event wins. **The event runs on live feed, from the American stock markets (Dow Jones)**. The winner gets attractive prizes.

**BIZ EVENTS**

1. **CASE STUDY CHALLENGE**

The event deals with solving case studies of corporate companies. The participants were provided with a problem statement from Intuit last year. Three case studies are provided. Participants can choose any one of these case studies. Participants will have to present their solutions in the form of B-Plan presentation. The solution that fits the most with the company would be selected and the team would be provided with a cash prize.

1. **GREEN INNOVATION CHALLENGE**

This is an Innovation Challenge where budding engineers have to use their technical skills to showcase their innovation and also design a business plan supporting their idea, so as to show the viability of actual implementation of their ideas, which make environmental or social impact. This event was organized for the first time during Engineer 2013.

1. **CAMPUS SOCIAL INITIATIVE**

This is the event in which the participants come with their own Problem Statement which they think is one of the major problems faced by most of the Campuses. They also need to provide a solution to that problem and get a platform to present to people who can implement your solutions in the finale.

1. **ADVENTURE**

This is an event in which participants have to come up with an ad and a marketing campaign and strategy for a real company. Participants need to give a 500 words write up about their plans to the problem statement. Selected finalists will present a video ad of 3 minutes and a presentation about their strategy in the finale. The problem statements vary over the editions of Engineer.

**MINING EVENTS**

1. **MINE RUSH**

It is a treasure hunt kind of an event where the teams decode a series of clues to reach the final destination. This event requires the use of some basic survey instruments.

1. **ADVERSE MINING PROBLEM**

This is an event which has power point presentation round where the participants can choose a real-life industry problem (ex: Neyveli / KGF) and discuss the problem and come up with the best possible feasible solution(s). The judgment will be done by the experts.

1. **MINE QUEST**

This is a quiz event which consists of four rounds.

**Round 1 : Prelims**

All the teams (3 members) will be given an objective question paper to solve which decides the eligibility for the further rounds.

**Round 2 : Eliminator**

The top six teams will be qualified for this round. in this round multi-disciplinary questions will be posed to the teams and are judged from all possible angles.

**Round 3 : Picture-Perfect**

This is a visual round in which the participants will be shown various pictures which may/ may not contain a flaw and are identified to detect and correct the flaw if present. they will also be given incomplete diagrams and are asked to complete them.

**Round 4 : Grand-Finale**

The ultimate round which decides the winner of the event where their performance is continuously evaluated. this round is a combination of auction round, buzzer round, challenge round, and rapid fire round.

1. **MINING INNOVATION**

Under this event students are allowed to think without any bounds on creative grounds to come up with mining techniques that are non-conventional and off-course are safe and economical as well as practically feasible. This is a power-point presentation round.

1. **VENTILATION BLAST MINE**

It is a very simple competition in which the participants are given the required data pertaining to blasting/ ventilation and where in the participants are required to design a suitable layout for the same. Judgment is done by experts.

1. **HANGMAN**

This event is based on the actual hangman game where the participants are given a picture and other team-mates are required to guess the title or relevant data as per the question posed to them.

**CHEMICAL EVENTS**

1. **CHEMICAL BREAKDOWN**

It is an event where you can unleash your imagination and basic science, laboratory skills and indulge in the world of basic chemistry. Don the role of a lab geek, play with the un-canniest concoctions, prepare the fanciest potions and race against the clock to figure out the Chemical X through a series of weirdest cases and mind boggling puzzles.

1. **INDUSTRY DEFINED PROBLEMS**

Industry Defined Problem is the epitome of real, applied engineering. Aiming to bridge the gap between theory and practice by challenging engineers to come up with innovative and creative solutions to crucial real life industrial problems IDP has been serving as a platform for budding engineers to interact with experts from premier industries around the country, and has been well appreciated by the faculty and students alike. Industry-Institute interaction is vital for the development of any engineering student. This event is the ideal eye-opener for them to apply their skills and knowledge and come up with creative solutions to problems posed by the industry. In this event, a renowned Chemical firm puts forward a technical problem which they are facing. The problem may be either recurring one or a one off issue. . The participants are expected to come up with innovative & economically feasible solutions that can be assimilated in the company’s process. The previous editions had us collaborating with the likes of Mangalore Refinery and Petrochemicals Limited (MRPL), Mangalore Chemical and Fertilizers (MCF) and other esteemed companies.

1. **THE PORTAL**

Chemical process simulation software helps broaden an engineer’s capabilities and increases productivity. It supercharges an engineer’s efficiency when facing the toughest chemical process models or addressing day-to-day challenges. They have potential instructional value for practically all core courses, right from first year process calculations to final year design project. It integrates all the topics under one roof making it one of the most powerful tool for a process/chemical engineer. CHEMCAD is one such simulation software featuring a rich Graphical User Interface (GUI) allowing the user to understand the behavior of the chemical systems by using rigorous models of thermodynamic processes and unit operations. In the previous edition of Engineer a workshop on CHEMCAD was organized giving everyone a hands-on experience with all the technical details and theory involved. No pre-requisites are required for this event. Generally the workshop will be followed up by an exciting event based on software taken up in the workshop.

1. **CONTRAPTION**

Every edition of Engineer provides a platform to all the participants to furnish practical and innovative solutions on a miniature scale to the most common problems of the world involving the application of knowledge of chemicals. For this previous edition of Engineer, Contraption provided an opportunity for participants to furnish innovative solutions for oil spills on a miniature scale, based on the criteria in Problem Statement.

**MECHANICAL EVENTS**

1. **ROBOWARS**

This an event which probably needs no description. Teams of 4-5 people can participate in this event with their bots. Specification and the guidelines are provided online for this event. Basically it is a warfare of the mechanically designed and controlled robots.

1. **PERFECT MACHINE**

This too is an event where participants design a robot which is made to complete some tasks as specified in the problem statement. Teams of 4-5 people can participate in this . The specifications, guidelines and rules will be provided online.

1. **WRIGHT FLIGHT**

This is a flying event in which participants take part with their own designed gliders completing the specified tasks within the stipulated time. Teams can have a maximum of 5 participants. The specifications, guidelines and rules will be provided online.

1. **PROTEUS**

This is a competition involving the underwater robotics in which participants take part with their own designed bots completing the specified tasks within the stipulated time. Teams can have a maximum of 4 participants. The specifications, guidelines and rules will be provided online.

1. **VELOCITY**

Being the flagship event of Engineer, Velocity provides you an opportunity to showcase your racing talents amongst dedicated peers who have put in the elbow grease required in building these racing machines. It is an event involving the RC car racing with self designed cars. The specifications, guidelines and rules will be provided online.

**TRONIX EVENTS**

1. **TRAILBLAZER**

It is a simple event based on the line follower robotics. You are required to build a line follower robot. This is an innovative event to hone the robotic skills. Teams can have a maximum of 4 participants. The specifications, guidelines and rules will be provided online.

1. **AUTOMATA**

Innovation is what inspires ‘AUTOMATA’. AUTOMATA comes with a challenging problem statement every edition. This is an ultimate image processing event in which the participants build an autonomous robot and guide it, with only the help of images acquired from an overhead camera, from the start position on an arena to the end position following a specific path. The ‘Specified Path’ will be problem, and the code will be the solution. Teams can have a maximum of 4 participants. The specifications, guidelines and rules will be provided online.

1. **SIMPLICITY**

It is an event which tests the MATLAB skill of the participants. Starting from simple math problems to image and audio processing, Simplicity questions interests everyone from novice to expert. Being one-of-a-kind online programming contest, Simplicity sees amateur to professional participants from around the world trying to crack problems in various fields of mathematics, science and engineering.

1. **TRADE OFF**

With breadboard as canvas and hues of transistors and gates, this event evokes the artist in the Engineer to sketch his masterpiece to glory. This event challenges you to solve basic analog and digital problems at the lowest level of abstraction in the most intuitive manner, where not just designing circuits but also making judicious use of the resources is taken into account.

1. **FOXHUNT**

Foxhunt, is a fun filled package on the lines of a traditional English activity involving tracking and chasing a fox by trained hounds. The difference at Engineer is that, the FOX is a Radio Transmitter and the HUNTERS are budding communication engineers. Participants are required to track down a transmitter (FOX) that could be situated anywhere in the campus, using a tunable radio receiver and an antenna built by them, making the event full of fun and excitement.

1. **SYMPHONY**

At Engineer, Symphony gives the participants an opportunity to dabble into the sights and sounds of electronics and bring the subject to life. Symphony requires participants to control a musical fountain’s water flow and lights, so that the fountain dances to the tunes of the music. A huge draw every Engineer, Symphony generates huge participation and promises a great crowd.

1. **WALTZ**

It is a simple event based on the wall follower robotics. Teams must build a wall following bot that navigates the maze in minimum possible time while switching walls at the check-lines indicated in the arena diagram which is specified in the problem statement.

**ASTRO EVENTS**

1. **ASTRO TALK**

In partnership with Tech Speak, Astronomy committee holds enlightening talks, designed to inspire and educate. Astronomy committee organizes a series of lectures from eminent scholars conducting cutting edge research in their respective domains.

1. **STAR WARS**

It is the Astronomy Quiz. It presents itself as a unique opportunity for those passionate in astronomy to flaunt their knowledge of the cosmos. Short listed teams from prelims face off in the final round.

1. **BEYOND EARTH**

It is the Human Settlement Challenge which invites participants to display their strategy to conquer the universe. This event calls upon participants who are keen to learn about strategy we would have to employ to expand our forces beyond Mother Earth. The settlement should have extensive plans and should not depend on Earth for basic amenities. Teams are evaluated on the basis of innovation, creativity and presentation skills. Participants are needed to submit a thesis of less than 15 pages, explaining in detail, their strategy to populate outer space. Location can be chosen anywhere outside Earth, other than Moon and Mars. A number of teams will be shortlisted for the final round held during Engineer.

1. **EXIHIBITS**

Some equipments related to the field of astronomy are on as exhibits.

Starry night steal the show which gives the people to see the starts with sophisticated equipments and various discussions are done. It is an event open to all.

**SOCIALLY CONSCIOUS ENGINEERING (SCE)**

1. **LAST WORD**

A panel is made addressing the problems and crisis that the society is facing which consists of expert speakers coming from a wide variety of backgrounds and fields, and we look forward to hearing their thoughts and opinions on this issue.

1. **SPARSH**

Sparsh is an event that calls upon teams to design and develop a solution to a problem faced by local communities. The participants are required to make a presentation putting forth their ideas and their proposals for the given problem statement. SPARSH stands out from the rest of the events in the sense that the team SPARSH will continue to be a part of the project and the implementation of the solutions even after Engineer comes to an end and continue its technical support to the organization.

1. **SKY LANTERN**

The chief guest is made to light up the sky lanterns which promote the socially conscious engineering on the night of the Main Show.

1. **GREEN INNOVATION CHALLENGE**

Already described under Biz Events.