



ST JOSEPH ENGINEERING COLLEGE

Vamanjoor, Mangaluru - 575 028

TIARA - 2019

**NATIONAL LEVEL TECHNICAL FEST
13TH AND 14TH MARCH 2019**



ECE



CSE



BASIC SCIENCE



CIVIL



EEE



MECH



MBA



MCA

Web: www.tiara2019.com

Email: tiara@sjec.ac.in

Download the Tiara App from tiara2019.com/getapp/

THE COLLEGE

St Joseph Engineering College, Vamanjoor, Mangaluru, is a premier institution, a hub for creativity and Innovative Ideas and engineering, established in the year 2002 with the aim to educate the youth in Engineering and Technology.

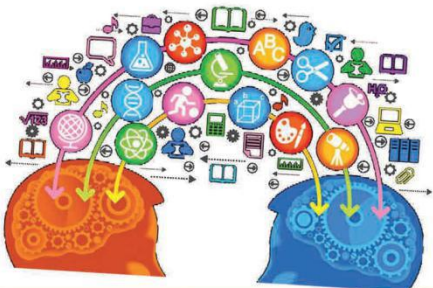
SJEC is affiliated to Visvesvaraya Technological University, Belgavi, Karnataka State, and is recognized by the All India Council for Technical Education (AICTE), New Delhi.

The College provides for a wide variety of co-curricular and extra-curricular activities which give a head-start to students, developing their personality and imparting skills of decision-making and leadership.

B.E PROGRAMMES

(Re-accredited by National Board of Accreditation)

- *Mechanical Engineering*
- *Electrical and Electronics Engineering*
- *Electronics and Communication Engineering*
- *Computer Science and Engineering*

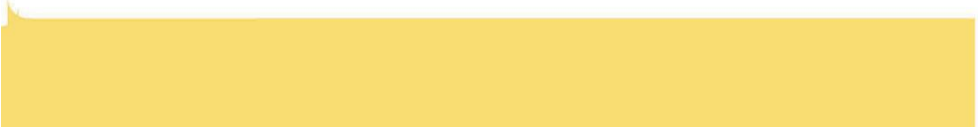


MISSION

- Provide opportunities to deserving students of all communities, the Christian students in particular for quality professional education.
- Design and deliver curricula to meet the national and global changing needs through student-centric learning methodologies.
- Attract, nurture and retain the best faculty and technical manpower.
- Consolidate the state-of-art infrastructure and equipment for teaching and research activities.
- Promote all round personality development of the students through interaction with alumni, academia and industry.
- Strengthen the Educational Social Responsibilities (ESR) of the institution.



GENERAL RULES AND REGULATIONS:

- All Contestants must produce their college ID cards at the registration counter while registering for the event.
 - In a team event, all participants should belong to the same college.
 - Participants are required to get their own laptops, pen drives and net connector wherever necessary.
 - Participants are responsible for any damages caused by them to the system and are liable to pay for the same.
 - Use of vulgarity, obscene language and misbehaviour is strictly prohibited.
 - Decision of the judges will be final and binding.
 - Participation certificates will be provided to all the contestants.
 - The participants should follow the general rules for smooth conduction of events.
 - Event organizers reserve the right to change any of the rules on the day of the event.
 - Any team found violating any of the above mentioned rules will be disqualified.
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TIARA

2019

Department of Basic Science

VIGNYAN VIKAS-2019

**Tatva
ChemHunt
ChemStorm
Best Out of Waste
Prayatna
Chanakya (Mega Event)**

Staff Coordinators

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Student Coordinators

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Event 1: TATVA

- Time Limit - 1 hour
- Six teams will be selected based on elimination round
- Two people make a team
- First Round: Physics Crosswords-15 Minutes (35 Points)
- Second Round: Puzzles-10 Minutes (30 Points)
- Third Round: Experimental-15 Minutes (25 Points)
- Fourth Round: One Minute game-10 Minutes (10 Points)
- Convener's decision is final
- Registration fee: Rs 60

Event 2: CHEMSTORM

- Time Limit - 1 hour
- A team with maximum of three students exhibiting only one Model and the selection will be based on theme, Presentation, Explanation and demonstration
- The participating team will have to bear all the expenses related to participation in the event.
- The exhibits/models will be assessed by the experts as per the following criteria:

- Students' own creativity and imagination
- Originality and innovativeness in design of the exhibit/model
- Scientific thought/principle
- Technical skill
- Utility/educational value/ecofriendly
- Economic aspect, portability, durability
- Registration fee: Rs 75

Event 3: CHEMHUNT

Rules for the Prelims:

- Each team should have 3 members.
- Each team should have a unique team name. It should be one amongst the elements in the periodic table (Example: Team Carbon, Team Gold, etc...)
- The team members should pin the respective identity cards provided, while the team is on action.
- No team members should possess any kind internet, electronic gadgets unless instructed to do so.
- The team members should carry a pen.
- An entire team must stay together. Do not split up to find different clues. If a team splits, it will be considered as malpractice and will lead to disqualification of the team.

Rules for the Treasure Hunt:

- Time Limit - 1 hour
- The prelims will be an aptitude test.
- Top 8 teams will qualify to the next stage of treasure hunt.
- There will be elimination of two teams each in the successive rounds.
- The tasks in each round should be completed within a given time limit, if the time limit exceeds it will lead to disqualification of the team.
- The clues for teams are different and located at different places but the destination i.e. the treasure is same. The team which finds the treasure first wins.
- Registration fee: Rs 75

Event 4: BEST OUT OF WASTE

- Time Limit - 1 hour 30 minutes
- Each team should have 3 members.
- Waste material and stationery like scissor, thread, etc. should be brought by the participants.
- Waste material could be anything like tetra packs, bottles, newspapers, old utensils, jute material or any second-hand items that otherwise would be thrown away.
- New materials like wires, soldering materials, LED Bulbs, cells etc can be used
- The material would be rejected if not found to be a waste product or second-hand item.
- Students should exhibit a model made from waste materials and to be built on the spot
- The Judgement will be based on
 - Innovative ideas in technology
 - Creativity and utilization of the resources
 - Artistic composition and design
 - Eco friendly rating and utility of the product
 - Overall presentation.
- Registration fee: Rs 75

Event 5: PRAYATNA (Paper Presentation)

- Individual Participation
- Duration: 4+1 minutes. (4 minutes presentation and 1-minute discussion).
- Topic: “**Science –A basis for Engineering**”
- Power point presentation or models can be used for the presentation.
- In case of power point presentation, Soft copy of Power point presentation should be submitted to the event coordinator one hour prior to the event.
- Participation is for the first 20 students on the first come first basis.
- Judge’s decision will be final.
- Judgment is based on Relevance, Knowledge and Presentation Skills
- No Registration fees.

Event 6: CHANAKYA (Quiz Competition-Mega Event)

- The event is open to all.
- It's a group event consisting of maximum two members.
- Participants are required to report 15 min prior to the scheduled time.
- 6 Teams are selected through an elimination round.
- For selected teams there will be 6 rounds- i) Physics ii) Chemistry iii) Math's iv) General Science v) Current Affairs vi) Engineering Field.
- Registration fee: Rs 60

Department of Business Administration

iKnow iCreate iImagine (Mega Event)

Staff Coordinators

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Student Coordinators

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Event 1: iKnow

- No of participants: 2 per team
- Use of mobile phones/ smart watches / laptops strictly banned inside the hall.
- Participants are requested to comply with the instructions given for each round.
- Participants are requested to be punctual for each round. Late coming will not be entertained.
- Event coordinators/ Quiz master's decision is final.
 - Round 1: General Knowledge – Objective type
 - Round 2: Logos & Mascots & Tag lines
 - Round 3: Personality Identification
 - Round 4: Final Round

Event 2: iCreate

- No of participants 2 per team
- Participants must carry necessary items for Brand Rangoli and for face painting such as color powder, paint etc.
- Theme for face painting and brand Rangoli will be revealed on the spot – Participants will be given 15-20 minutes for planning.
- Camera's – preferably a DSLR Camera must be brought for Photography event. Topics for photography will be revealed on the spot.
- Mobile/laptops can be used only when you are permitted by the coordinators
 - Round 1: Brand Rangoli
 - Round 2: Face Painting
 - Round 3: Photography – based on 3 themes within Vamanjoor
 - Round 4: Chart Making on a given topic

Event 3: iImagine (Mega Event)

- No of participants: 3 per team
- Topic for icebreaker is–**Dream v/s Reality**
- Creative kit will be supplied to participants.
- Duplication of work based on internet contents will invite negative marks.
- Participants are requested to comply with the instructions given for each round.
- Participants are requested to be punctual for each round. Late coming will not be entertained.
- Judge's decision is final.
 - Round 1: Icebreaker on a given topic
 - Round 2: Create a product out of the Creative kit
 - Round 3: Product Launch with Mad ad
 - Round 4: Re-make of a flop movie from the 90's

Department of Civil Engineering

Innovatica

Buoyancy

Hidden Layers

Snap and Win (Mega Event)

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Event 1: INNOVATICA (Technical Paper Presentation)

- Judgment is based on the significance of the topic, paper format, slides and presentation skill.
- Time duration: 8 mins-presentation and 2 mins-questionnaires round.
- The participants must get 2-hard copies of their paper in IEEE format, which can be a maximum of 4 pages.
- Judge's decision will be final.
- Open to all departments.
- Team: 2 participants.
- Registration is free.

Event 2: Buoyancy

- Topic: Boat Making out of straws and ice cream sticks.
- 50 Straws, 150 ice-cream sticks, glue and thread will be provided
- No additional items to be brought for the competition for making of the boat (No Painting)
- 1.5 hours for Boat making
- Once the time for boat making is over, no student can sit in the place given
- The boats must float in the water tub, additional specific weights will be given
- Marks will be for appearance, weight sustainable, use of materials

- Judge's decision is final
- Team: 3 participants.
- Registration fee: Rs 100

Event 3: HIDDEN LAYERS (Technical Event)

- Task will be given on spot.
- Materials like rope, tape and lime powder will be provided.
- Participants must mark the Centre line of the given plan on the ground using given materials.
- Judgment is based on the accurate and precise marking.
- Judge's decision will be final.
- Time duration: 1.5 hours
- Open to Civil Engineering Department only.
- Bonus points will also be given depending on duration taken by each team.
- Team: 3 participants
- Registration fee: Rs 100

Event 4: SNAP AND WIN (Mega Event)

- Event consists of three rounds (One hour each).
- **Round-1:**
 - A list of 40 items will be given. Teams will be allotted 45 mins to take a selfie with the items given in the list.
 - The top 20 teams that capture highest number of selfies will qualify for the next round.
 - Teams reporting after 45mins will not be considered.
 - All the selfies must be clicked in a single phone.
 - Only camera roll pictures will be considered
 - Prior permission of lecturers or any guest should be taken in case of a selfie with them.
 - All members of the team should be present in each selfie along with the task.

- **Round-2:**
 - Puzzle Round-**
 - Find the pieces of puzzle in and around the campus by solving the given clues. The puzzle solved will depict a place, where the teams must capture a selfie.
 - The top 8 teams will qualify for the next round.
- **Round-3:**
 - Theme Snap-**
 - Team with the most innovative and creative picture, according to the given theme will win.
- Organizers and judge's decision will be final.
- Open to all departments.
- Team: 4 participants.
- Registration fee: Rs 100

Department of Computer Science & Engineering

Trojan Spartans Papyrus PUBG Bazzinga Adroit (Mega Event)

Staff Coordinators

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Student Coordinators

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Event 1: Trojan Spartans

- Number of people in a team: 2
- Registration fee: 30

Round 1:

It is an elimination round consisting of 2 sub-rounds.

➤ **First Sub-round:**

- ✧ It consists of technical quiz based on visual hints.

➤ **Second Sub-round:**

- ✧ Participants should solve crossword puzzle.
- ✧ Based on the scores of 2 sub-rounds, participants will be selected for Round 2.

Topics:

- General Android topics
- Industry names
- Software
- Network
- Databases
- Data Structures
- ADE
- MP

Round 2: It will consist of the following:

1. The teams will be given four programs to decode which when run successfully, will result in four digits. These digits will signify a room number and one member of each team must run to that room to fetch the next clue.
2. Here, the team member will be handed another problem statement. The participant must return to the lab and solve the problem statement.
3. The team will then be given a flowchart and there will be code snippets scattered in the file system of the PC which they will need to combine with their own code. The fastest team shall win.

Event 2: PUBG

- It is a gaming event.
- Participants should have their personal mobile phones with the game installed and internet connection.
- Number of people in a team: 4
- Registration fee: Rs 100

Event 3: BAZZINGA (Technical Event)

- Maximum number of people in a team is 2
- Registration Fee: 50/100

Round 1: Tech Buzz

- Part 1: E-MCQ questions
 - ✓ Recent Technical trends in Computer Science
- Part 2: Audio/Visual
 - ✓ Identify Pictures of personalities or logos
 - ✓ Plan to eliminate half of the total number of participants

Round 2: Oh My Bug

- Debugging Code Snippets of C programming Language
- Plan to qualify 5-6 teams for the final round

Round 3: Code Warriors

- Solve 2 problem statements of varying difficulties in C/C++/Java or Python

Event 4: ADROIT (Mega Event)

Time to rack your brains and crack your knuckles!!

- A team can consist of 3-4 members.
- Each member of the team must have access to a smartphone.
- Helping other teams is strictly prohibited. It will lead to disqualification of both the teams.
- Minimum no. of teams: 25
- Event Fee per team: Rs. 100

Round 1: Quest for Holmes

A set of 20 questions are framed to test the problem-solving ability of each team. The time allotted is 20 minutes. The questions are based on the following:

1. Mind boggling puzzles and riddles.
 2. Logical reasoning
 3. Lexical analysis
 4. Crime mysteries
- The top 20 teams proceed to the next round.
 - Time required: 1 hour

Round 2: The Cheeky Dexter

This is a two round event which includes a treasure hunt.

1. **Scan the Scenario:** A riddle will be displayed using a projector. The top 15 teams will get the next clue of the treasure hunt.

2. **Riddle Me:** Once the clue provided is solved by the team they are split into two. Two members must perform a series of tasks whereas the other members must solve a trail of riddles. The riddles direct the members performing tasks to the required destination.

The tasks include:

Where's Wally: The team members need to find the person based on the riddle solved and obtain the clue for the next task.

Once Wally is found, the team members solving riddles will obtain the clue for the next task. The volunteer will accompany the team members performing the tasks.

Paper planes: The team must make a paper plane with an A4 sheet that will be provided. The two members of the team must toss the plane among themselves to the finish line.

- The top 12 teams proceed to the next round which will be held on the second day.
- Time required: 3 hours

Round 3: Blueprint

Each team needs to design a logo that represents their department. Every team needs to give a presentation on the logo designed. The teams are allowed to draw using free hand or by using a software.

Time required: 2 hours

Round 4: The Geek Meter (Surprise Event)

This round is a blind coding round where the monitors will be switched off. The team to obtain the correct output for the given problem statements will be declared as winner.

Time required: 1 hour

Event 5: PAPHYRUS

- A team can consist of 1 or 2 participants.
- Open to all departments.
- No Registration fees.
- The participants must select a relevant technical topic.
- Judgement is based on the significance of the topic, paper format, slides, presentation skill.
- Time duration: 7 mins – presentation and 3mins-questionnaire round.

- The participants must get 2-hard copies of their paper, which can be 4-5 pages.
- Judge's decision will be final.

Department of Electronics & Communication Engg

Presentino

Tech-Xtra

Three reasons why!

EI-DORADO

Robo-Tron (Mega Event)

Staff Coordinators

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Event 1: Presentino

- Presentino is a paper presentation event conducted by electronics and communication department at Tiara-2019. This event aims to provide the best platform to showcase the student's research ideas in front of esteemed panel of judges. The best paper will be awarded.
- Individual or team of maximum 2
- Decision of the judges will be final.
- Spot entries will not be entertained.
- Participants should submit the soft copy of the full-length paper in IEEE format to the email presentino.tiara@gmail.com on or before 5th March 2019, the selected papers will be informed before 8th March 2019.
- Paper should be submitted in both MS word document (.doc) and Pdf document.
- Bring 3 Hard copies and a Soft Copy of the paper as well as ppt in Pen Drive and your Google Drive respectively.

Event 2: Tech-Xtra

Always wondered where to test your engineering skills???

Grab this right opportunity to showcase your technical skills and win attractive prizes.

It is a technical event to test one's engineering skills. This event consists of three rounds which are based on basic engineering concepts, circuit debugging and code debugging skills. The event is restricted to ECE and EEE department. Team of max three members.

- ID card is mandatory.
- Decision of the judges will be final.

First round: - Elimination

- Pen paper test - based on basic engineering concepts and general knowledge questions.
- Top 15 teams will be moving to second round.

Second round: - Into the code lands

- Basic code debugging.
- Top 8 teams to crack the code will be selected.

Third round: -The last chip

- Solve and Design circuit based on the problem statement given.
- Winners are selected based on the time taken to solve the problem statement.

Event 3: Three reasons why!

This is an event to test the physical, intellectual and emotional skill of the participants. The event consists of three rounds. The first round is memory oriented. Qualifying teams from this round will move to the second round consisting of three stages, each testing various abilities of the participants. The final showdown is where the participants will have to exhibit their "Engineering" Skills.

Round 1: - Dimag Ki Batti Jala Do!

- This is a visual round to test one's memory skill.
- Answer a series of questions based on the visuals.

Round 2: - This round consists of 3 tasks leading to elimination with each task fetching Bounty for the next round.

- **Dora the Explorer** - Explore your surroundings to hunt down the listed treasures.
- **Slick or Prick** - A simple group task to lead you to your bounty!
- **Blindfold Party** - With blasting music and blindfolded partners, are you sure to make it to the next round?

Round 3: - Cash the Bounty

You did survive all the hurdles. Now time to face one last hurdle as an ‘**Engineer**’!

Event 4: EI-DORADO

Step inside the Doors of EL-DORADO and experience the never experienced. Pass all the hurdles and set sail on a treasure hunt to discover yourselves in the LOST CITY OF GOLD

- Team should consist of four members.
- Entry fees is Rs.50 per team.
- Mobile phones are strictly prohibited for **First** round. However, the team members **should** have at least one smartphone for the further rounds.
- If any team is found indulged in any activities against the event rules, teams will be disqualified on the spot.
- Event coordinator decision is final.
- Registration stops 30 minutes before the commencement of the event.

Round 1: INQUIZITVE

- It will be a General Quiz Round.
- Elimination Round.
- Top 50 teams will be qualified for next round.

Round 2: SECONDS OF HEAVEN

- Group games will be conducted for the 50 teams selected from first round.
- Elimination round.
- Top 20 teams will be qualified to next round.

Round 3: War for CO-G (City of Gold)

- Group games will be conducted for the 20 teams selected from second round.
- Elimination round.
- Top 7 teams will be selected for the final round.

Round 4: EL-DORADO

- Final Round: Treasure hunt round.

Event 5: Robo-Tron (Mega Event)

“Let the circuit of your mind follow the line!” Time to put your basic robotic skills in line with your thoughts! Robo-Tron is an automated line following robot competition, in which different teams will be competing against each other with their robots. The objective of this event is to complete the course in the shortest period.

- Registration fee is Rs 100 per team.
- ID card is mandatory.
- Maximum 4 in a team.
- In case of bot malfunction, exchanging of bots with another team is not allowed.
- Bots will be inspected before the event.
- Judge’s decision will be final.

Event specifications:

1. Color of the track - Black (on a white background).
2. Width of the track - 3 cm.
3. Bot Dimension: 15cm x 15cm (maximum)
4. Bots should be fully autonomous, remote controlling is not allowed.
5. Event will consist of three rounds.
6. The tracks may contain loops, angle bends (60° & 90°), curves and crossovers.
7. Tracks will also contain checkpoints.
8. Point will be awarded based on clearing checkpoints and minimum time to complete the track.
9. Bonus points will be awarded, if the bot stops at the final check point.

Department of Electrical & Electronics Engineering

BOT SOCCER The Egg Drop Challenge The Journal Explorado Race Your RC's (Mega Event)

Staff Coordinators

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EVENT 1: BOT SOCCER

Two Bots from different teams compete against each other on the arena to score goals and prevent the opponent from scoring a goal.

- A team can have a maximum of 4 members.
- Each game shall have 2 halves, each half lasting for two minutes.
- The bots should not remain immobile for more than 10 seconds.
- For each goal scored by a team, 4 points will be awarded.
- 2 points will be deducted for damaging the opponent's bot.
- The bots are not allowed to enter the goalpost. Entering the goalpost will result in deduction of 2 point.
- 2 point will be deducted for the bot which is responsible for hitting the ball out of the arena.
- Pushing the opponent's bot into goal post is allowed.
- Teams will NOT be allowed to modify their bots during the match.
- The name of the person who is controlling the bot should be announced before the starting of the game. The controller cannot be changed during the game.
- One member should hold the wires of the bot during the game. The wires should remain slack throughout the game.
- The team which gets the highest points will be the winner of the game.

- If by the end of the given time duration, the number of points earned by both teams is the same, then the match will proceed to GOLDEN GOAL.
- Time duration given for the one entire match will be 4 (2+2) mins.
- Single phase external 230V AC power will be supplied.
- Maximum voltage between any two points on the bot must not exceed 24 V DC.
- The bot is not allowed to lift or hold the ball.
- All decisions about scoring, gameplay and timing made by the organizing committee are final.
- The organizing team reserves the right to change any or all of the above rules as they deem fit. Change in rules, if any, will be notified to the registered teams.

EVENT 2: Race Your RC's

Design a manually controlled, self-made wireless robot that is agile has a capacity to cover maximum distance in shortest possible time, challenging the hurdles like hair pin bends, ladders, tunnels and surprises.

Rules and Regulations:

- Event is open for all branches.
- Registration details and college ID must be presented.
- Maximum 3 members in each team.
- Only one person from the team will be allowed on the track field.
- Only one person shall be holding the remote control throughout the event.
- All participants should surrender their remote controls 30 minutes prior to the event.
- Change in the name of the team members must be informed prior to the event.
- No trial is allowed on the track field.
- Dimension of the car should be within 30 cm * 30 cm * 30 cm.
- Maximum weight of car is 2kgs.
- The participant will have to drive along the track and finish it as soon as possible.
- The track will also have a bonus point; these can be obtained by crossing of certain obstacles which would slow down the car.

- By obtaining a bonus point certain amount of time will be reduced from your lap time.
- The team which reaches the finish line with the minimum time will be declared the winner.
- Misbehavior on part of any team member will be appropriately dealt with and the team captain will be held accountable. If necessary, the team will be disqualified and the Unique Identification Sticker (UIS) will be confiscated.
- In case of any disputes / discrepancies, the organizer's decision will be final and binding
- The organizing team reserves the right to change any or all the above rules as they deem fit. Change in rules, if any, will be notified to the registered teams.
- Decisions taken by the judges will be final.
- Registration fee - Rs 100/-.

EVENT 3: The Egg Drop Challenge

Participants will design and build an apparatus that will protect an egg from breaking as it is under freefall.

- The apparatus may be constructed of any material except glass, sponge or other shatter able material. Failure to use approved materials will result in automatic disqualification.
- The apparatus must fit completely inside of a 30 cm x 30 cm x 30 cm box. Maximum weight limit is 3kgs. Apparatus that do not fit in within the prescribed space and weight will result in automatic disqualification.
- The apparatus must freefall without contacting team members, other persons or objects; no strings, chutes, etc. may be used. Tethers, parachutes and other air resistance devices may not be used.
- Containers must be designed so that the egg may be inserted easily before competing, and easily checked after the drop test.
- The egg must stay inside the apparatus throughout the drop test.
- Unique and innovative design will be an important part of the competition.
- The participants are required to carry any additional material.

- Any manipulation of the egg to alter its physical properties will result in automatic disqualification. (Boiling of egg, Soaking the egg in vinegar etc. is not allowed.)
- Entry Fee Rs 100/-.
- (Note: The egg would be provided during the contest.)

Judging:

The apparatus must allow for the egg provided to be unbroken and uncracked upon completion of the drop test. Participants will remove the egg from the apparatus and show it to the judge for verification. Only the judge determines whether the egg survived the drop test.

$$\text{Score} = 50 + 10 * W - L$$

W - weight of apparatus (in kg)

L - maximum length of the apparatus (in cm)

EVENT 4: The Journal

"The Journal", the paper presentation contest aims at tapping this infinite potential of human mind to generate an idea, which when given a proper platform, can transfer into a path breaking discovery. An opportunity is provided to bring forth such original ideas and present it in a genuine and comprehensive way.

Rules and Regulations:

- The event is open to all branches.
- Registration details and college ID must be presented.
- Maximum two members in a team.
- Paper should be in IEEE format.
- Participants name, department and college should be mentioned clearly in the paper.
- Topic is “**Recent trends in Electrical and Electronics technology**”.
- The paper should be sent by mail to any one of the coordinators in IEEE format before 10-03-2019.
- The participants need to send their paper to any one of the following
- Email-ID's: **thumb2308@gmail.com**
- Selected teams will be notified via Email.
- Once the paper is selected you will be required to prepare the presentation containing maximum of 15 slides.
- Time limit: 6 minutes (Presentation) + 2 minutes (QA session)

- The paper should be relevant to the topic given above.
- The judge's decision is final.
- The two teams with the highest marks will be awarded.
- Prize is awarded for the team and not for everyone.
- There is NO registration fee.

EVENT 5: Explorado

A non-technical event, comprising of 4 rounds involving a lot of fun tasks. A team should consist of 4 members.

Rules and Regulations:

- Usage of phones is not allowed.
- 4 people in a team.
- Event is open to all branches.
- Registration details and college ID must be presented.
- Entry Fee Rs 100/-

Event Details:

Round 1: Bamboozled

- This is the preliminary round.
- It's a trivia quiz which includes topics General knowledge, music, movies, sports, logos, literature, pop culture, history and many more.
- This is an elimination round.

Round 2: Jumanji

- This is an elimination round.
- To complete the round, all the clues have to be obtained from each point and also perform certain tasks.

Round 3: Double Trouble

- The team will be split up into 2 players each.
- The split teams will be performing 2 separate tasks.
- This is an elimination round.

Round 4: The End Game

- There will be a sequence of tasks conducted and the team who completes it first, wins.

Department of Mechanical Engineering

Hydro Cannons Avion Tech Talks Treasure Hunt Robo War (Mega Event)

Staff Coordinators

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Event 1: Robo War (Mega Event)

General Rules

- Teams should report by 11:00 AM.
- The competition will be played on a knock-out basis.
- The bot will be inspected for safety before the event begins. If found to be unsafe for the participants/spectators, it will be discarded.
- The organizers reserve the right to change any or all the rules as they deem fit. Changes in rules, if any, will be highlighted on the website.
- Violation of any of the rules will result in immediate disqualification.
- The maximum time limit for the clash of combatants inside the arena is 3 minutes.
- A bot will be declared immobile (out) if it cannot exhibit linear motion of at least one inch within 10 seconds. A bot with one side of its drive train disabled will not be counted out if it can demonstrate some degree of controlled movement.
- Teams that are not ready when called for battle will be considered to have declared a walkover and will receive no points.
- The bot cannot be split into two sub-units. Two distinct parts connected by a flexible cable will be considered separate units.
- Damaging the arena will lead to immediate disqualification.
- Lego kits, readymade kits, car bases and development boards are not permitted. Readymade gear boxes are permitted.

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

Winning Criteria

A bot wins if its opponent is immobilized. In case both the robots remain mobile at the end of the round, the winner will be decided under the rules as discussed in the scoring pattern.

Robot Specifications

Size

1. The size of the bot can be 600mm X 600mm X 600mm (l X b X h).
2. Any external control devices or tanks are not included in the size constraint.

Weight Classes

1. Weight of the robot should not exceed 40kg.
2. Weight of external power source (batteries and adaptors) will not be counted.
3. Weight of wireless wheeled robots will be counted as 0.7 times the actual weight.
4. In case weight exceeds the limit(40Kg) then 10points will be deducted for increase in 0.5Kg
(MAX weight limit is 42Kg)

Mobility

All robots must have easily visible and controlled mobility to compete.

Robot Controller Requirements

1. Bots may be wired or wireless. Autonomous bots not allowed.
2. Tele-operated robots must be radio controlled by standard Hobby Radio Control equipment, or use an approved custom system as described below.
3. Tethered control is not allowed.
4. Pre-1991 non-narrow band radio systems are not allowed.
5. This event recommends but does not require a separate power switch for the radio.
6. It is recommended to use 3 to 4 frequencies for your robot.
7. For wired bots, care should be taken so that wires do not get entangled.
8. The power supply should be 24 volts.

Rotational Weapons or Full Body Spinning Robots

Spinning weapons must come to a full stop within 60 seconds of power disconnection using a self-contained braking system. Robots can have any kind of cutters, flippers, saws, lifting devices, spinners, hammers etc. as weapons with following exceptions and limitations:

1. Liquid projectile.
2. Any kind of inflammable liquid.
3. Flame-based weapons.
4. Any kind of explosive or intentionally ignited solid or potentially ignitable solid. Nets, tape, glue, or any other entanglement devices are not permitted.
5. High power magnets or electromagnets.
6. Radio jamming, tazers, tesla coils, or any other high-voltage device.
7. Tethered or un-tethered projectiles.
8. Spinning weapons which do not come in contact with the arena at no point of time are allowed. In no case should the arena be damaged.

Scoring

1. Pushing a bot into a hole will fetch 30 points.
2. Lifting a bot for 10sec (consists of front two tyres) will fetch 30 points.
3. Any part damage caused by the other bot will be carrying the following points:
 - a) Major (attack, defense and mobility mechanisms): 30 points
 - b) Minor (nut, bolt, fasteners etc): 10 points
4. Pinning a bot to the walls of the arena for 10 seconds will carry 20 points.
5. Pinning and lifting 40points. (10sec)
6. Impact hit 40 points.
7. Topple 60 points.

Event 2: Hydro Cannons

General Rules

- The cannons should be designed by participants only.
- Only PET bottles are allowed.
- Only compressed air and water can be used.

- Only hand/foot pumps are allowed. The participants are supposed to get their own pumps and launchers.
- PVC fittings can be used for design.

Winning Criteria

The winner will be decided based on farthest distance travelled by the projectile.

Event format

Round 1

Each team will be given two attempts.

At the end of the first round, the top 10 teams with the maximum distance will qualify to the second round.

Round 2

In this round each team will be given only a single attempt. Teams covering the maximum distance will be declared as winners.

Event 3: Avion

Aircraft Design

Design Constraints

1. Total wingspan not exceeding 150 cm.
2. Total weight of the plane should not exceed 1.2kg.
3. Only electrical motors are allowed. IC engines and other forms of propulsion are prohibited.
4. Gyroscopic assistance is prohibited.

Inspection

All aircraft will be subjected to a technical inspection before flight round.

1. Time limit for Inspection is 5 minutes.
2. Final build can be showcased during the presentation.
3. The dimensions of the aircraft will be cross-checked with the design report. Any deviations beyond 5% of the listed specifications will be penalized.

General Rules

1. Teams should report as soon as the inaugural function winds up on **13/03/2019**.
2. Every team should have a maximum of 4 members.

3. There is no material restriction for the aircraft. (Metal propellers are not allowed)
4. Aircraft should only be hand tossed and belly landing should be performed in the landing zone.
5. Only Pilot and Launcher is allowed inside take-off zone during flight round.

Scoring Criteria

Pilot must perform a set of maneuvers mentioned below within the given time limit.

1. Takeoff
2. 180 degree turn (Yaw/Pitching)
3. Figure of 8
4. Loop
5. Circuit
6. Inverted Flight
7. Approach
8. Landing

Event 4: TECH TALKS (Paper Presentation)

Event Details, Rules and Regulations:

1. The topic for presentation is "Emerging trends in Mechanical, Automobile and Aeronautical engineering".
2. A team can consist of max of 2 or only 1 can present.
3. Time provided for presentation is 7+2 mins. (7-ppt and 2 for Q&A)
4. Top 25 teams will be selected for the presentation
5. Event is open for B. E (Mech) and MTech students
6. Selected teams only will have to send their ppt and softcopy to the mail id: jjinum@sjec.ac.in
7. **ABSTRACT OF THE PRESENTATION SHOULD BE MAILED BEFORE 06/03/2019**
8. Decision of judges and event heads is final.
9. Please contact the concerned staff or event heads for any clarifications.

Event 5: Treasure Hunt

Event Details and Rules and Regulations:

- Each team must comprise of 4 members
- The teams are requested to report by **1:45 PM** on the given venue, on **13/03/2019**.
- All the clues will be placed inside the college campus.
- Some clues may involve certain tasks.
- Do not move, tamper with, destroy or otherwise alter the clues at the locations.
- As you reach each location, after you get the envelope and before heading to next location, we need complete explanation of the clue with the volunteer.
- No interaction with other team.
- Failure to comply with any of the rules mentioned above may involve in direct disqualification of the team.

Department of Computer Applications

Photography and Video Editing

Gaming

I-EXPO (Mega Event)

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General Rules

- ID card is mandatory.
- Registration fee for Tangled is Rs 80
- Registration fee for all other events is Rs 50
- The Department/Staff has the right to act in case of misconduct.
- Details of the rounds will be given on the spot.
- Judge's decision will be final.

Event 1: Photography and Video Editing

- Number of Participants: 1 person per team.
- Number of Rounds: 3
- Participants must get their own laptop, camera and pen drive.
- Mobile Photography is not allowed.
- Necessary software should be pre-installed.

Event 2: Gaming

Event will test the gaming skill of the participant

- No of participants: 2
- Total number of rounds: 3
- Participants must get smartphone with PUBG installed.
- Download all 4 maps in PUBG.
- Participants must get their headphone.
- Laptop will be provided for ROUND 3.

Event 3: I-EXPO (Mega Event)

This is a platform where contestant must be ready to face any challenges given on the spot. The participant must have good Technical & Analytical skills.

- Individual Event
- Participants must compulsorily get their Smart Phone with good internet Connections
- Participants must compulsorily get their Earphones.
- Participants must compulsorily get their Laptops, Pen drive, data cables.
- **There will be an Over Night Assignment. Which will be given on the day**

Automation and Robotics Club

Code-the-BOT

Staff Coordinators

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Student Coordinators

Name : Mr Erwin Royson
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Event 1: Code-the-BOT

This event focuses on the skills of students programming knowledge with interfaces using Arduino. The participants has to bring their own Arduino board alone. It can be either a Arduino UNO or Mega only.

- Each team can have maximum of two person.
- Board has to be kept in their allocated locations.
- Once their respective chances are done they can not take the board to reprogram.
- Time will be given for them to reprogram.
- Committee reserves the rights to allow if needed.

The Event Details:

- ARC will setup the lifter module, object pick conveyor, object place conveyor models.
- With pick conveyor sensor is placed to detect the object.
- In lifter, a DC motor and a servo motor are placed.
- If possible we will add color sensor to detect color of the objects.

The game is very simple:

- The participants has to connect the wires comes from sensor and to the motors in their Board.
 - They will give given only 2 minutes time to setup and test.
- The participants does have control over conveyor speed.
- Participants has to pick the object one at a time and place in the baskets on the other conveyor.
- The team with most number of picks and place within given time will be declared as a winner.
- Judges decision is final.

This event three rounds:

Round 1

- Each team will be given 15 minutes to program on just to pick the static positioned object and place in the same location.
- Based on the performance and count teams will be allowed to move for next round.

Round 2

- Each team will be given 10 minutes to pick the static positioned object and place or drop the object inside a static positioned basket.
- The team completes this task will move to next round.

Round 3

- Each team has to pick a object on moving belt and place or drop inside moving basket.
- Each basket has a specific points.
- Final will be calculated based on the sum of number of objects * points for that basket.



Organizing Committee

Rev. Fr Wilfred Prakash D'Souza
Director

Rev. Fr Rohith D'Costa
Asst Director

Dr Rio D'Souza
Principal

Mr Prashant Kurdekar & Ms Preetha D'Souza
Conveners

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