Sandip Foundation's

Sandip Institute of Engineering and Management, Nasik

DEPARTMENT OF COMPUTER ENGINEERING

Presents

E-Insights

Volume 3 Issue 2 2021-22

About SIEM

Sandip Institute of Engineering and Management (SIEM) is located in the scenic, eco-friendly and conductive-to-study campus at an elevation off the Trimbak Road (Mahiravani, Nasik) leading to one of the twelve renowned pilgrimages of jyotirlingas known as Trimbakeshwar (abode of Lord Shiva) at the foot hills of Brahmagiri mountain ranges. SIEM is approved by All India Council for Technical Education, New Delhi Government of India and affiliated to Savitribai Phule University of Pune. SIEM is committed to imparting quality education in an atmosphere that will ensure that its students are confident, self-motivated and industry-ready. Towards this goal, we are giving importance to qualified and experienced faculty for effective teaching-learning process, equipping our laboratories with best-in-class machines and instrument and developing overall personality of our students (with emphasis on strengthening the fundamentals of subjects, ability to work as a team and good communication skill). There is a well formulated regime with a blend of theoretical learning and practical experience. This enables the faculty to guide the students to learn tomorrow, today.

Sandip Foundation's

Sandip Institute of Engineering and Management, Nasik.

Department of Computer Engineering

January, 2022 **E-Insights** **Volume 3: Issue 2**

About Department

Computer Engineering

The Department of Computer Engineering sustains and strengthens its teaching and learning program by adapting a comprehensive student centric approach designed to add significant value to the learner in an integrated manner through conceptual and interactive teaching, active lab sessions, seminars, projects, and independent study. As the continued up gradation of the knowledge and skills of faculty members is vital for continuous growth and development of the department, faculties are motivated to attend workshops, seminars, conferences and Training programs. Department has well equipped state-of-the-art laboratories with latest hardware and software configuration for conducting various practical's as well as highly qualified and experienced faculty to nurture the future technocrats of the nation.

Editor-in-chief
Mr.M.V.Korade

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Mr.Dhanesh Vasaikar
Ms.Nikita Singh

Vision and Mission of Institute

Vision of the Institute

We at SIEM aspire to be a globally recognized Institute that delivers a world class education to outstanding intellectuals by nurturinc and grooming their interests, creative abilities and thrusts to acquire a life-long learning so as to imbibe values of their commitmen1 towards society.

Mission of the Institute

We at SIEM shall strive continuously,

• To inculcate and imbibe knowledge of cutting-edge technologies and its implementation for solving real life problems in E conducive environment.

• To collaborate with national and international institutes/industries/ universities of repute for sustainable growth through tearr work.

• To motivate and retain highly skilled and knowledgeable individuals, whose creativity and interest in teaching upholds to achieve desired goals. • To provide a dedicated platform to cater the needs of individuals and inspire them for their intellectual growth and character building.

• To enable the students to achieve excellence in the chosen fields and to share the responsibilities of citizenship and service in E disciplined manner.

Vision and Mission of Department

Vision of the Department

The department aims to be recognised in the field of quality education through excellence in teaching, learning, research and innovation for the betterment of society.

Mission of the Department

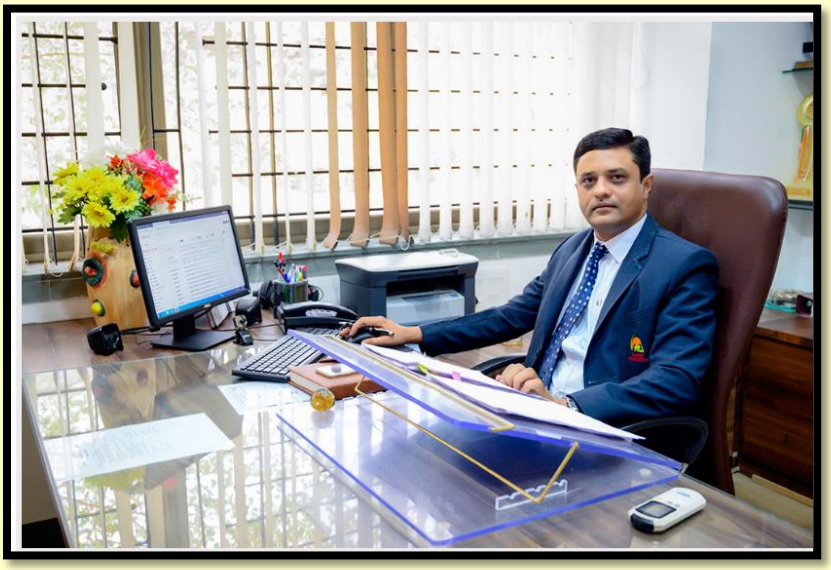
• To provide world class infrastructure with modern tools and technologies for better learning ambiance.

• To enhance problem-solving skills approaches by encouraging young and inspiring minds with innovative teaching & learning.

• To build competent professionals and entrepreneurs through collaborative learning with national and international institutes of repute.

• To contribute in the development of society & nation at large through excellence in research and innovation.

Golden Words from Principal



Welcome to Sandip Foundation's Sandip Institute of Engineering and Management.

Representing Sandip Institute of Engineering and Management is a great matter of pride for me. In this marvelous campus of Sandip Foundation, we strive to inculcate values in students which nurture them in a way that makes them excel in academics, innovation and personal growth. The prime interest of the institute has always been to impart knowledge, values, skills and wisdom in students to empower them to become the torch bearers of their respective fields.

We support an all-encompassing approach to education that integrates academic concepts with real-world applications. We pledge to deliver each and every stakeholder top-notch facilities and services. In order to integrate academic understanding to real-world problems and applications, our laboratories and research facilities provide students with hands-on learning opportunities.

We encourage our students to engage in extracurricular and intellectual activities as a supplement to their academic endeavors.

These experiences aid in the development of critical life skills, the enhancement of communication abilities, and the formation of enduring connections that will last a lifetime. The institutes additionally offer employability-enhancement programs, value-added programs, and credentials in addition to the primary academic curriculum. Furthermore, we furnish webinars, seminars, guest lectures, workshops, and skill-based training modules for advancing the level of bar of the knowledge of students' field of interest.

In my ability and as this prestigious institution's principal, I can confidently assure you that we are dedicated to creating an orderly and enriching campus environment. To ascertain everyone's success both academically and personally, we place a high priority on their well-being and provide the best assistance whenever required.

Let's change the world together and leave an enduring impression of being an integral part of the Sandip Group of Institutes.

Thank You. Best Regards.
Dr. Dipak P. Patil Principal

Valuable Words from Head of the Department

Greeting from the Department of Computer Engineering!!

The world is going through a tremendous positive transformation, and in education its effects are clearly visible. We in the Department of Computer Engineering wish to be part of this positive change utilizing our core strengths in Technical knowledge, Research, Data Analytics and world class Infrastructure. Department of Computer Engineering was established in the year 2010 with Batchelor of Computer Engineering (BE) Programme with Intake of 60. Being an integral part of an institution, Sandip Institute of Engineering and Management, Sandip Foundation, Nasik, naturally helps the department and its programmes imbibe all the values and ethos that have made the institute an epitome of excellence.

The rigorous education and training which students get, helps them to tackle the complexity of the engineering and corporate environment as they are able to unshackle themselves from the confines of mere technical competencies. With a carefully designed syllabus by SPPU, we keep up to the true Sandip Foundation tradition of sensitizing ourselves with the latest trends in the industry. The emphasis of the training, Value added Programs in the Department is on building technical as well as people skills, which is indispensable for each of our students to do well in their life.

The class being a heterogeneous mix of academically motivated students from diverse, yet related fields naturally enriches the learning environment, turning it into a fountainhead of vibrant ideas.

The response from both academic institutes as well as industry has been very enthusiastic and encouraging. This bears testimony to the fact that our alumni have made us proud by assuming various positions in reputed organizations like Persistent, Accenture, Amazon, Synel and many more. The placement of the students has been equally encouraging as they have joined many reputed organizations like Infosys, Persistent, Amazon, TCS, Accenture, etc

All these achievements of the department would not have been possible without the enthusiastic and dedicated work of our past and present faculty members. Department faculty members are exceptionally dedicated set of teachers and at the same time top notch researchers in their field of study publishing on regular intervals in reputed journals. They have also done the department extremely proud by writing various books, book chapters etc. Department has also been in the fore front of industry interaction.

We are supremely confident that in years to come Department with its rigorous and regularly updated syllabus, research, innovative teaching techniques and active participation with industry will enforce the reputation of as an enviable seat of higher learning.

Dr. K. A. Shirsath (Nalavade)
Head, Department of Computer Engineering
Sandip Institute of Engineering and Management, Nasik

Table Content

1. Workplace Automation: Transforming the Future of Work 01

2. Future Skills for a Tech-Driven World 04

3. Digital Twins in Business: A Revolution in Operational Efficiency 07

4. Virtual Events & Conferences: Redefining Networking in a Digital Era 10

5. Report on Resume Writing and Interview Skills. 13

6. Report on Squid Game 16

01. Workplace Automation: Transforming the Future of Work.

In today's fast-paced technological landscape, workplace automation is revolutionizing how businesses operate. Defined as the use of technology to perform tasks with minimal human intervention, automation enhances efficiency, reduces costs, and improves accuracy, making it essential for modern organizations.

Benefits of Workplace Automation

Increased Efficiency: Automation streamlines repetitive tasks, allowing employees to focus on strategic and creative aspects of their roles.

Cost Savings: By minimizing labor costs and reducing human error, organizations can significantly lower operational expenses.

Enhanced Accuracy: Automated systems deliver consistent results, ensuring higher accuracy in data-related tasks.

Improved Employee Satisfaction: By relieving employees from mundane work, automation fosters engagement and job satisfaction.

Key Technologies Driving Automation

Robotic Process Automation (RPA): Automates rule-based tasks, freeing up human resources for complex activities.

Artificial Intelligence (AI): Enhances decision-making through predictive analytics.

Machine Learning: Continuously improves processes by analyzing data patterns.

Chatbots and Virtual Assistants: Streamline customer service by handling inquiries efficiently.

Industries Embracing Automation

Manufacturing: Robotics enhance assembly line efficiency and quality control.

Finance: Automated systems improve trading and fraud detection.

Healthcare: Automation streamlines patient management and diagnostics.

Retail: Enhances inventory management and personalized customer experiences.

Challenges of Automation

Despite its benefits, automation poses challenges, including:

Job Displacement: Addressing fears of job loss and investing in reskilling.

Integration Issues: Navigating compatibility with existing systems.

Data Security Concerns: Safeguarding sensitive information in automated systems.

Resistance to Change: Overcoming employee hesitance through effective change management.

Future Trends

Collaboration between Humans and Machines: Augmented intelligence will enhance decision-making.

Customization and Flexibility: Tailored automation solutions will create agile work environments.

Remote Work Tools: Automation will play a vital role in maintaining productivity in hybrid workplaces.

Sustainability: Automation technologies can support eco-friendly practices.

02. Future Skills for a Tech-Driven World

As technology rapidly evolves, the skills required to thrive in the workforce are changing just as quickly. In a tech-driven world, workers must adapt to emerging tools, processes, and environments. This article explores the essential skills for future success and how individuals can prepare for the jobs of tomorrow.

1. Digital Literacy

In an age where digital tools are ubiquitous, digital literacy is fundamental. This includes not only basic computer skills but also the ability to navigate complex software, understand cybersecurity, and engage with emerging technologies such as AI and blockchain.

2. Data Analysis and Interpretation

With data being a key driver of decision-making, the ability to analyze and interpret data is increasingly valuable. Professionals should be proficient in using data analytics tools and techniques to derive actionable insights, guiding business strategies and operations.

3. Adaptability and Flexibility

The pace of technological change means that adaptability is crucial. Workers must be open to learning new skills and adjusting to new roles as job demands shift. This mindset fosters resilience in an unpredictable job market.

4. Critical Thinking and Problem Solving

As automation takes over routine tasks, the ability to think critically and solve complex problems will distinguish top performers. This involves not only identifying issues but also developing innovative solutions and strategies.

5. Collaboration and Communication

In a world increasingly characterized by remote work and cross-functional teams, strong collaboration and communication skills are essential. Workers must be able to convey ideas clearly, facilitate discussions, and work effectively with diverse groups.

6. Emotional Intelligence (EI)

Emotional intelligence—the ability to understand and manage one's own emotions and those of others—will be vital in navigating the complexities of team dynamics and leadership. EI fosters better interpersonal relationships, essential in any workplace.

7. Technical Proficiency

While broad digital literacy is crucial, specific technical skills will be in high demand. Proficiency in coding, software development, and understanding AI algorithms will set candidates apart in many fields, especially in tech-centric roles.

8. Creativity and Innovation

The ability to think creatively is a differentiator in a tech-driven landscape. Organizations will value those who can envision new products, services, and processes, driving innovation and staying ahead of the competition.

Preparing for the Future

To cultivate these skills, individuals should invest in continuous learning. Online courses, workshops, and professional development programs can help workers stay relevant. Networking and seeking mentorship can also provide valuable insights into industry trends.

03. Digital Twins in Business: A Revolution in Operational Efficiency

In the rapidly evolving landscape of technology, digital twins are emerging as a transformative force for businesses across various industries. A digital twin is a virtual replica of a physical entity—be it a product, process, or system—that enables real-time monitoring and analysis. This innovative approach provides organizations with unprecedented insights, facilitating improved decision-making and operational efficiency.

What Are Digital Twins?

Digital twins utilize sensors and data analytics to create a dynamic digital model of a physical object or process. These models continuously receive data from their real-world counterparts, allowing businesses to simulate scenarios, predict outcomes, and optimize performance. From manufacturing to healthcare, the applications of digital twins are vast and varied.

Key Benefits of Digital Twins

Enhanced Predictive Maintenance: By monitoring equipment in real time, businesses can anticipate failures before they occur, reducing downtime and maintenance costs.

Improved Product Development: Companies can test and refine products in a virtual environment, accelerating the development process and minimizing the risks associated with physical prototyping.

Optimized Operations: Digital twins enable organizations to analyze processes and identify inefficiencies, leading to streamlined operations and reduced operational costs.

Informed Decision-Making: With real-time data at their fingertips, leaders can make more informed decisions, backed by accurate simulations and predictive analytics.

Customer-Centric Innovation: By simulating customer interactions and behaviors, businesses can tailor products and services to meet specific needs, enhancing customer satisfaction and loyalty.

Industries Embracing Digital Twins

Manufacturing: Digital twins are used to monitor machinery performance, optimize production lines, and enhance supply chain management.

Healthcare: In medicine, digital twins of patients can help in personalized treatment plans, improving outcomes through tailored therapies.

Urban Planning: Cities are using digital twins to simulate urban growth, manage infrastructure, and improve resource allocation.

Automotive: Car manufacturers leverage digital twins to enhance vehicle design, monitor performance, and improve safety features.

Challenges and Considerations

Despite their potential, implementing digital twins comes with challenges. Data privacy and security are paramount concerns, as organizations must protect sensitive information. Additionally, integrating digital twins into existing systems can be complex, requiring a robust IT infrastructure and skilled personnel.

The Future of Digital Twins

As technology advances, the capabilities of digital twins will continue to expand. The integration of artificial intelligence and machine learning will enhance their predictive capabilities, allowing for more sophisticated simulations and insights. Moreover, as industries increasingly embrace the Internet of Things (IoT), the prevalence and utility of digital twins are expected to grow exponentially.

04. Virtual Events and Conferences: Redefining Networking in a Digital Era.

In recent years, virtual events and conferences have transformed the landscape of professional gatherings. As technology advances and global circumstances necessitate innovative solutions, organizations are increasingly turning to virtual platforms to connect, collaborate, and learn. This article explores the evolution, benefits, challenges, and future of virtual events.

The Rise of Virtual Events

Virtual events gained significant momentum during the pandemic, enabling organizations to maintain engagement and foster community despite physical distance. Today, they encompass a wide range of formats, including webinars, workshops, trade shows, and large-scale conferences, all accessible from the comfort of home or office.

Key Benefits of Virtual Events

Global Reach: Virtual platforms eliminate geographical barriers, allowing attendees from around the world to participate without travel constraints. This inclusivity fosters a diverse audience and enriches discussions.

Cost-Effectiveness: Organizing virtual events often incurs lower costs compared to traditional in-person gatherings. Expenses related to venue rental, catering, and travel are significantly reduced, allowing for more budget allocation towards quality content and technology.

Flexibility and Convenience: Attendees can join sessions at their convenience, with many events offering recorded content for later viewing. This flexibility accommodates different schedules and time zones, enhancing overall participation.

Interactive Features: Modern virtual platforms provide interactive elements such as live polls, Q&A sessions, and breakout rooms. These features encourage engagement and facilitate networking, replicating the in-person experience.

Data Insights: Virtual events generate valuable analytics, providing organizers with insights into attendee behavior, preferences, and engagement levels. This data can inform future events and marketing strategies.

Challenges of Virtual Events

While virtual events offer numerous advantages, they also present challenges. Technical issues, such as connectivity problems or platform glitches, can disrupt the experience. Additionally, maintaining attendee engagement in a virtual environment requires creative approaches, as the lack of physical presence can lead to distractions.

Best Practices for Successful Virtual Events

Engaging Content: Focus on delivering high-quality, relevant content that resonates with the audience. Incorporate diverse formats like panel discussions, expert interviews, and interactive sessions to keep participants engaged.

Networking Opportunities: Facilitate networking through breakout sessions, virtual lounges, or dedicated networking platforms. Encouraging interaction among attendees fosters connections and collaboration.

Technical Preparation: Ensure all technology is tested and functioning before the event. Provide clear instructions for attendees on how to navigate the platform and participate in sessions.

Feedback Collection: Gather feedback post-event to understand attendee experiences and identify areas for improvement. This information is invaluable for enhancing future events.

The Future of Virtual Events

As we look ahead, the hybrid model—combining in-person and virtual elements—will likely dominate the events landscape. This approach allows organizations to cater to diverse audience preferences while maximizing reach and engagement. Innovations in virtual reality (VR) and augmented reality (AR) may further enhance the immersive experience, making virtual events more interactive and dynamic.

05. Report on Expert Lecture-“Resume Writing and Interview Skills”

1. **Event Title**: Expert Lecture on “Resume Writing and Interview Skills”
2. **Event Date:** 05/05/2022.
3. **Event Conduction Duration**: 1 day (Timings: 11 am to 12 pm)
4. **Event Venue**: Online (Google meet)
5. **Event Resource Person Details**: Prof. Lalit Patil (Central Training Head)
6. **Name of Event Coordinator**: Prof. M V Korade
7. **Expected Audience**: Students of TE, BE Computer Engineering Department.
8. **Number of Participants**: 42
9. **Course Content**:

- Resume writing.
- Difference between CV and Resume.
- Components of resume.
- What to add and what not.
- Interview Skills.
- Preparation.
- Manners.
- Behavior.

10. **Event Objectives & Outcomes**:

Objectives:

By attending expert lecture students should

1) Aware of Resume Writing.

2) Aware about interview Preparation.

3) Understand the manners and behaviours of interview.

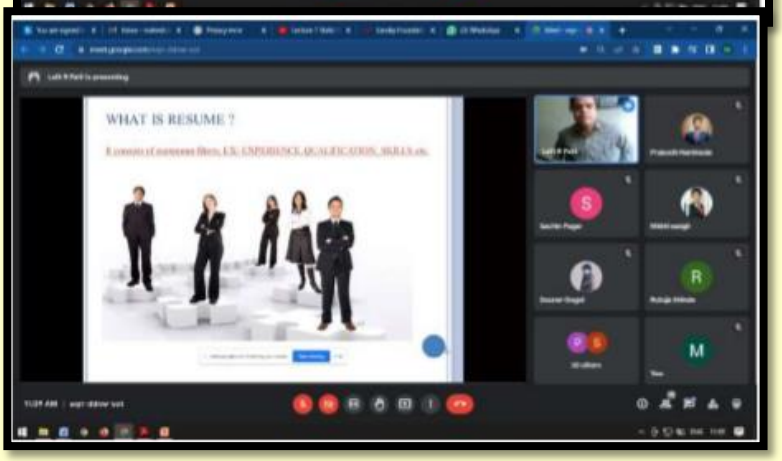
Outcomes:

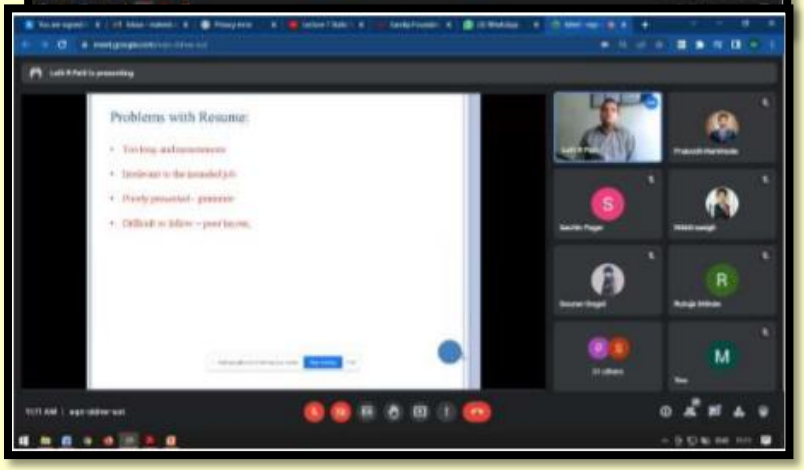
Students are able to

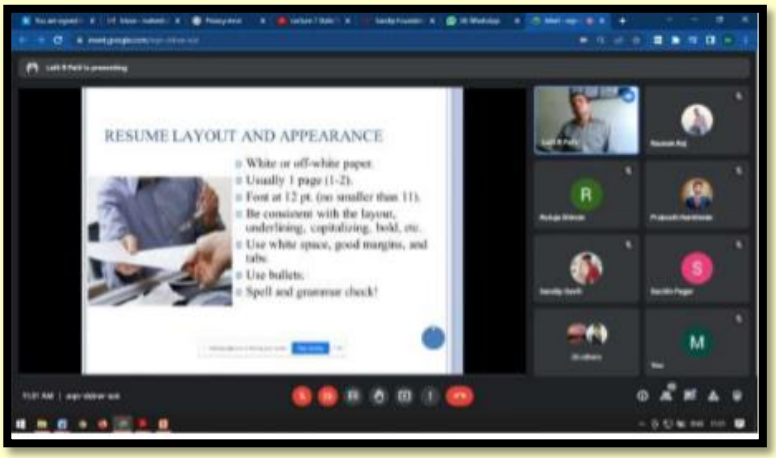
1) Write the Resume effectively.

2) Impress interviewer by following the learned things

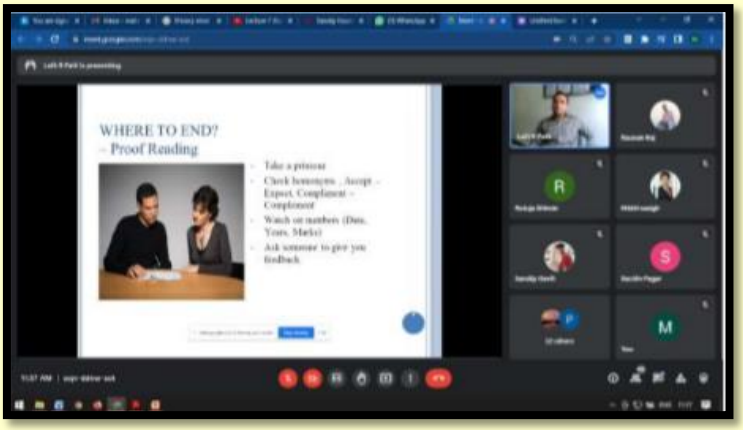
11. **Photos**






RESUME LAYOUT AND APPEARANCE
White or off-white paper.
Usually 1 page (1-2).
Font at 12 pt. (no smaller than 11).
Be consistent with the layout, underlining, capitalizing, bold, etc.
Use white space, good margins, and tabs.
Use bullets.
Spell and grammar check!

WHERE TO BEGIN?
Get it on paper.
Make a list of all your work experience, education, skills, abilities, interests, talents, etc.
If making a career change, remember transferable skills.
Layout basic resume format.
Fill in the blanks.


WHERE TO END?
– Proof Reading
Take a printout
Check homonyms , Accept – Expect, Compliment – Complement
Watch out numbers (Date, Years, Marks)
Ask someone to give you feedback

CAREER OBJECTIVE
Who I am?
What I want to do?
How will I make your company successful?
Don't use same objective for all companies
Create
Mission+Vision=

PRIMARY PURPOSE
Create
Resume represents you
A resume will get you an interview!
Guides the interviewer in what to ask.
Give a positive first impression of you in 10-20 seconds.

06. Report on Event- Squid Game

1.**Event**: SQUID GAME

2.**Number of Participants:** 37

3.**Winners**: 1. Sayama Pathan

2. Mayank Patel

4.**Student Co-ordinator**s: 1. Raunak Raj 2. Shubham Gangurde

3. Aditya Valvi 4. Bhavesh Patil

5. Ritesh Patil 6. Akash Kshatriya

7. Kapil Jaiswal 8. Aditya Dhivar

9. Gaurav Arsule

5.**Staff Co-ordinators**: Prof. N. R. Hiray

6.**Event Photos**: