



Eshan College of Engineering

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Detailed Report

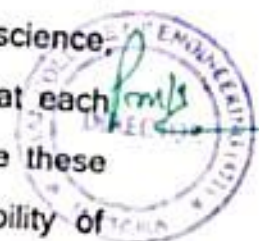
Seminar on- "Applications of Artificial Intelligence in Current Research Domain"

Subject Area- Research Methodology

Organized by- Department of Computer Science and Engineering

Artificial Intelligence (AI) applications in education are on the rise and received a lot of attention in the last couple of years. With the continuous development of artificial intelligence technology, college education merges together intelligence elements much more than before. Artificial intelligence is also used to optimize resources in research laboratories, automate the acquisition of data and facilitate the synthesis and analysis of complex datasets thereby affecting research methodology. Similarly, the application of AI in research has grown tremendously with a focus on automation of research techniques from generating a hypothesis to conducting experiments.

We believe that AI coupled with machine learning techniques is impacting a wide range of fundamental sciences, including mathematics, medical science, physics, etc. Aspects of fundamental sciences, including information science, mathematics, medical science, materials science, geoscience, life science, physics, and chemistry are elemental to our students. The challenges that each discipline of science meets, and the potentials of AI techniques to handle these challenges, need to be discussed in detail. To further explore the usability of artificial intelligence, a seminar on "Applications of Artificial Intelligence in





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Current Research Domain (Research Methodology) was organized on 03/03/2020 at Eshan College of Engineering, Farah, Mathura.

Our respective Director Dr. Ghanshyam Srivastava patronized the seminar which began with praising almighty god with lighting of the lamp. Next, he introduced the vitality of AI in current research methodology and how it affects students' working who are eager to join the business world in the near future. The speakers enlightened the students about data mining, knowledge discovery analytics and fuzzy logic-based approach to research. They highlighted the development process of AI which includes perceptual intelligence, cognitive intelligence, and decision-making intelligence. The question-answer session clarified student doubts making them quite proficient and confident to apply artificial intelligence in research. Our esteemed faculty members along with 55 students, participated in the session.





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Detailed Report

Workshop on- "Applications of Calculus In Engineering"

Subject Area- Research Methodology

Organized by- Department of Applied Sciences and Humanities

Over the span of a couple of years, mathematics has contributed to bringing up new innovative ideas that are now widely accepted around the globe. Various fields such as engineering, medicine, biological research, economics, architecture, space science, electronics, statistics, and pharmacology all benefit from the use of calculus. The application of calculus in research and development has paved the way for manufacturing, data management and other service industries to grow exponentially. Based on collected data, companies can optimize their output, productivity, and efficiency, which improves the industry's quality and revenue.

Our faculty came to agreement that calculus is concerned with two basic operations, differentiation and integration, and is a tool used by engineers to determine such quantities as rates of change and areas; in fact, calculus is the mathematical 'backbone' for dealing with problems where variables change with time or some other reference variable and a basic understanding of calculus is essential for further study and the development of confidence in solving practical engineering problems. Hence, it is very important to make students aware of its practical aspects other than academics.





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Along this perspective of industry demand, the Department of Applied Sciences and Humanities, under the guidance of our Director Dr. Ghanshyam Srivastava, organized a workshop on **"Applications of Calculus In Engineering (Research Methodology)"** on 16/11/2019 to make students more efficient and competent enough. 45 students participated in the workshop. It is necessary to make students understand the concept of a limit and its significance in rate of change relationships due to which the following objectives of this workshop were addressed-

- Use calculus notation for describing a rate of change (differentiation) and understand the significance of the operation.
- Solve engineering problems involving rates of change.
- Understand what is involved in the calculus operation of integration.
- Solve engineering problems involving integration.

We were honoured that Dr. Shailendra Kumar, AP, ASH agreed to become the speaker and enriched students with-

- Basic functions and derivations of calculus,
- Product, chain and quotient rule,
- Linearity in differentiation and
- Valuating integrals among other vital components.



He also conveyed that Many engineers see calculus as just a gateway to getting an engineering degree but it is so much more. Calculus is the math of the universe, explaining how all things interface together. Calculus is the foundation to even begin to understand physics, thermodynamics, materials,





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mechanics, electronics and statistics. Without calculus, mechanical engineering wouldn't exist.





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Detailed Report

Workshop on- "Applications of MATLAB In Solving Engineering Problems"
(Two-days)

Subject Area- Research Methodology

Organized by- Department of Electrical Engineering

The heart of MATLAB is the MATLAB language, a matrix-based language allowing the most natural expression of computational mathematics. It is a programming platform designed specifically for engineers and scientists to analyse and design systems and products that transform our world. Our efficient Director Dr. Ghanshyam Srivastava and faculty comprehended that it can be used as a tool for simulating various electrical networks but the recent developments in MATLAB make it a very competitive tool for Artificial Intelligence, Robotics, Image processing, Wireless communication, Machine learning, Data analytics etc.

MATLAB is designed for the way you think and the work you do, so learning is accessible whether you are a novice or an expert. The faculty organized a two-day workshop on "Applications of MATLAB In Solving Engineering Problems (Research Methodology)" from 18/04/2018 to 19/04/2018 in which 33 students enrolled. After inaugural speech by our esteemed Director Shri Rajeev Shankar, AP, EE presided over the session of day one. Highlights of Day-1 of this workshop included the following elements-





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Starting with basic algebra, students learned how MATLAB can be used to solve a wide range of engineering problems.

- Examples were taken from concepts presented in early chemistry, physics, and first- and second-year engineering classes.
- Statistics and matrix algebra, brief background information was used to support student success.
- As they worked through hands-on examples and exercises, they learned to apply a consistent problem-solving methodology to help them reach a solution.

On the second day, students were made aware of numeric techniques, computer simulations and data structure by Ms. Lalita Singh, AP, EE. Highlighting how to apply a top-down modular approach to design and debug sequential MATLAB programs, she concentrated on the following aspects-

- To apply and design different algorithms using MATLAB.
- To upload data from different sources, such as files, databases, or the internet, into MATLAB. At the same time, how to analyse them.
- MATLAB has a very large library of mathematical functions. Thus, how to perform the computation of linear algebra and matrices as a mathematical product.
- To simulate data models, prototypes, and products to design or calculate with MATLAB.
- To optimize them in order to use it effectively with other programs and design various self-specific interfaces.





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The students became familiar with this concept and took notes for their betterment. The successful workshop concluded with a vote of thanks by our respected Director and acknowledging the speakers for their credible efforts.





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Detailed Report

Workshop on- "Applications of Calculus in Solving Engineering Problems"
(Two-days)

Subject Area- Research Methodology

Organized by- Department of Applied Sciences and Humanities

Fundamental theorem of calculus allows one to solve a much broader class of problems. Some engineers directly use calculus in their daily practice and some use computer programs based on calculus that simplify engineering design. Two methods of calculus, differentiation and integration, are particularly useful in the practice of engineering, and are generally used for optimization and summation, respectively. Our management admitted that to mitigate the potentially disjoint nature of infused engineering applications, some institutions have developed stand-alone calculus courses for engineers to make their research more adaptable. From a practical perspective, college faculty prearranged a two-day workshop on **"Applications of Calculus in Solving Engineering Problems (Research Methodology)"** on 08/03/2018-09/03/2018 in the college campus.

The Department found that it has great applications in engineering as well as management related fields. In this workshop, 29 students enrolled themselves and esteemed speakers Dr. Shailendra Kumar, AP, ASH and Prof. Manisha Kumar, AP, ASH graced the occasion and disseminated information about using graphs to find solutions to engineering problems and represent variables in





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engineering systems. From a practical viewpoint they also discussed that an Architect Engineer uses integration in determining the amount of the necessary materials to construct curved shape constructions and also to measure the weight of that structure. Calculus is used to improve the architecture.

In Electrical Engineering, Calculus (Integration) is used to determine the exact length of power cable needed to connect two substations, which are miles away from each other. In Physics, Integration is very much needed to calculate the Centre of Mass, Centre of Gravity and Mass Moment of Inertia of a sports utility vehicle. To calculate the velocity and trajectory of an object, predict the position of planets, and understand electromagnetism. There was a special session in which focus shifted to using differentiation and integration for determining the rate of change, turning points, maximum, minimum and optimum values. Statisticians use calculus to evaluate survey data to help develop business plans for different companies. Because a survey involves many different questions with a range of possible answers, calculus allows a more accurate prediction for the appropriate action.

This information opened many opportunities for students to learn and make calculus an integral part of their careers. This would make them unique and confident in this subject area. Students energetically participated and made this seminar a success.





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Detailed Report

Certificate Course on- "Entrepreneurship: Essentials & Development"
(Sixteen-days)

Subject Area- Entrepreneurship

Organized by- Department of Applied Sciences and Humanities

Our reputed Director Dr. Ghanshyam Srivastava and Mr. Ajit Saxena, Head, Department of Computer Science jointly agreed to organize a thirty hours value addition certificate course on the topic **"Entrepreneurship: Essentials & Development"** for the students of B. Tech CSE (IInd and IIIrd year) from 08/10/2018 to 23/10/2018. The venue was Digital Room (CSE), Eshan College of Engineering. The objective of the course was to teach key issues faced by entrepreneurs and managers at different stages of the life-cycle of an enterprise and was relevant both for aspiring entrepreneurs and decision makers in established enterprises.

40 students enrolled for the course and it provided foundational knowledge on various aspects of entrepreneurial venture creation and management during its life-cycle. Topics were classified according to some major themes. Success in business can be greatly enhanced with an understanding of key entrepreneurial characteristics and competencies solutions. This interactive course provided potential entrepreneurs with the knowledge of succeeding in an entrepreneurial opportunity. Topics included how creativity, opportunity and feasibility are best





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evaluated, business strategies for new businesses; importance of a business plan; achieving success in a new business.

Course Themes

- Create an entrepreneurial venture
- Current trend of technology
- How to start a start-up by identifying opportunities
- Factors driving competitive advantages
- Organizational structure
- Basic knowledge of financial statements and project report
- Introductory knowledge on marketing, strategic and human resource management
- Risk analysis
- Legal aspect of business

At the end of the course students had the skills and confidence to evaluate starting a business, in addition to becoming more enterprising in how they approach their roles should they decide to work in organizations. They were able to apply entrepreneurial approaches, concepts, and methods. This aided our students to become professionals having overall familiarity of business framework. The faculty representative thanked our experts for their precious time and efforts.





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Seminar on- "Data Science"

In association with- CETPA Infotech Pvt. Ltd., Noida

Subject Area- Concepts of Data Use

Organized by- Department of Computer Science and Engineering

Data science combines math and statistics, specialized programming, advanced analytics, artificial intelligence (AI), and machine learning with specific subject matter expertise to uncover actionable insights hidden in an organization's data. These insights can be used to guide decision making and strategic planning. The open-source tools support pre-built statistical modelling, machine learning, and graphics capabilities. Given the steep learning curve in data science, many companies are seeking to accelerate their return on investment for AI projects; they often struggle to hire the talent needed to realize data science project's full potential. To address this gap, a seminar on **"Data Science"** was jointly hosted at Eshan College of Engineering, Farah, Mathura and CETPA Infotech Pvt. Ltd., Noida, dated 10/04/2021.

It was realized that data science is the domain of study that deals with vast volumes of data using modern tools and techniques to find unseen patterns, derive meaningful information, and make business decisions. Students were engaged in extracting knowledge from data they gather using different methodologies. The seminar's aim was helping students in accurately displaying data points for patterns that may appear that satisfy all the data's requirements.



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and instilling the qualities of a data scientist in collecting, organizing, analysing, and interpreting data to find trends, patterns, and correlations. B. Tech (IInd, IIIrd and IVth year) 29 students were assembled in Seminar Hall. A feedback form was requested to be filled by the students for suggestive enhancement.

Seminar Highlights

- Data Acquisition, Data Entry, Signal Reception, Data Extraction. This stage involves gathering raw structured and unstructured data.
- Data Warehousing, Data Cleansing, Data Staging, Data Processing, Data Architecture. This stage covers taking the raw data and putting it in a form that can be used.
- Data Mining, Clustering/Classification, Data Modeling, Data Summarization. Data scientists take the prepared data and examine its patterns, ranges, and biases to determine how useful it will be in predictive analysis.
- Exploratory/Confirmatory, Predictive Analysis, Regression, Text Mining, Qualitative Analysis. This stage involves performing the various analyses on the data.
- Data Reporting, Data Visualization, Business Intelligence, Decision Making. In this final step, analysts prepare the analyses in easily readable forms such as charts, graphs, and reports.





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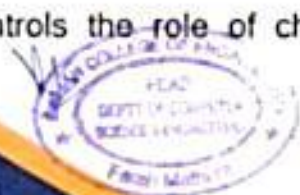
Seminar on- "Design Experimentation In Research Methodology"

Subject Area- Research Methodology

Organized by- Department of Computer Science and Engineering

Experimental design is the process of researching in an objective and controlled manner to optimize precision and reach conclusions about a hypothesis statement. The goal is to determine the effect a factor or independent variable has on a dependent variable. While experimental research is a type of scientific examination in which one or more independent variables are changed and then applied to one or more dependent variables to see how they affect the latter. However, it is rarely articulated how the experiments were carried out in order to test a hypothesis, to begin a fruitful journey into unexplored design terrain or just gradually build knowledge. So, a seminar on the topic **"Design Experimentation In Research Methodology"** was held on 08/10/2021.

An experiment deliberately imposes a treatment on a group of objects or subjects in the interest of observing the response. This differs from an observational study, which involves collecting and analysing data without changing existing conditions. Because the validity of a experiment is directly affected by its construction and execution, attention to experimental design is extremely important. The main advantage of using this method is that it avoids bias and controls the role of chance. This method provides a solid foundation





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for Statistical analysis as it allows the use of probability theory. It was our privilege that well-acclaimed Dr. Mayank Singh, Shanti Niketan Degree College, Agra was the resource person of this seminar. He conceptualized three essential elements of

- Time, which is a critical aspect in establishing a cause-and-effect link,
- Cause-and-effect behaviour that is consistent and
- Comprehending the significance of cause and effect,
- The concept of experimental design applied to Engineering, Natural Science and Social Science as well. The areas in which the experimental designs used are- Evaluation of physical structures, materials and components, Chemical formulations, Computer programs, Opinion polls, Natural experiments, Statistical surveys.

for a better understanding of Design Experimentation among students and faculty alike. This collaborative effort encompassed 39 students accompanied by esteemed faculty in attendance. The seminar ended with distribution of certificates to the most enthusiastic participants to encourage and motivate them.





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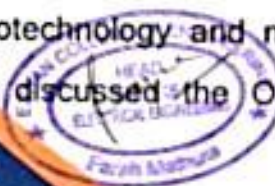
Seminar on- "Design of Experiments & Its Importance" (Two-days)

Subject Area- Research Methodology

Organized by- Faculty, ECE

A strategically planned and executed experiment may provide a great deal of information about the effect on a response variable due to one or more factors. Many experiments involve holding certain factors constant and altering the levels of another variable. Design of experiments (DOE) is defined as a branch of applied statistics that deals with planning, conducting, analysing, and interpreting controlled tests to evaluate the factors that control the value of a parameter or group of parameters. It is extremely necessary to interpret the importance of Design of Experiments in young minds from logical perspective which motivated our honourable Director Dr. Ghanshyam Srivastava to invest his precious time and become a speaker for **"Design of Experiments & Its Importance (Research Methodology)"** seminar from 05/02/2018 to 06/02/2018.

The faculty always works tirelessly for the betterment of students and making them future ready in the best possible and adaptable manner. Our Director stated that design of experiments (DoE) is a technique that can be used to efficiently explore the relationships and develop greater understanding. Consequently, DoE is becoming increasingly central to the advancement of nanotechnology and nanomanufacturing. He started with an introduction to DoE and discussed the One Factor At A Time approach which is generally used





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among scientists and engineers. He considered traditional methods implemented in experimentation in practice. He also proposed modern DoE methods that are appropriate and suggested DoE methods that map to particular areas.

Prof. Manish Kumar, AP, ASH also talked about grey relational analysis, multi objective optimization, factorial and ANOVA analysis with DOE for robust design and applicability of DOE. Students were imparted knowledge about recent trends in Design of Experiments and expose them in the current scenario of techniques. It was a successful and enlightening time for ECE students and faculty. 33 students were a part of this seminar.





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Seminar on- "Entrepreneurial skill training for young minds"

Subject Area- Entrepreneurship

Organized by- Department of Computer Science and Engineering

Eshan College of Engineering follows a holistic approach to propagate such alumni in the business world who are trained entrepreneurs. Entrepreneurship-focused activities and programs can help prepare students for the challenges they are going to face in college, career, and beyond. Entrepreneurial education is essential for young people who want to pursue a career in business and want to create something. It offers young people the opportunity to turn their ideas and passion into successful ventures. Our Director, Dr. Ghanshyam Srivastava patronized that young people bring fresh ideas, creativity, and energy to the business world, and they are well-positioned to take advantage of the many opportunities that entrepreneurship offers. Thus, we hosted a seminar on **"Entrepreneurial skill training for young minds (Entrepreneurship)"** on 16/08/2019.

The seminar examined familiarizing youngsters with entrepreneurship culture and realizing importance of developing youth entrepreneurship policies. Next, the seminar focussed on relationship between working hours and productivity, ways in which obstacles to youth entrepreneurship can be addressed using specific programmes, illustrated by several inspiring practices and key aspects of successful youth entrepreneurship programmes. This led to mapping problems





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and managing time in workplace. The key points covered in the seminar have been summarized below-

- Mainstream the development of entrepreneurship awareness and entrepreneurial behaviours starting from basic level.
- Prepare basic entrepreneurial skills education material
- Encourage tailored local material, case studies and role models
- Foster interactive and on-line tools
- Promote experiential and learning- by- doing methodologies

The concluding words of our respected trustee ma'am were quite motivational for students to dream and excel. The session ended with refreshments for faculty as well as students.





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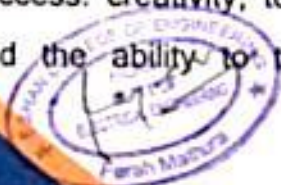
Seminar on- "Entrepreneurship Essentials"

Subject Area- Entrepreneurship

Organized by- Faculty, ECE

Entrepreneurship is a process of actions of an entrepreneur who is a person always in search of something new and exploits such ideas into gainful opportunities by accepting the risk and uncertainty with the enterprise. An Entrepreneur is an initiator, a challenger and a driver who creates new product/ service or does normal things in a different way in the market which includes his Innovations or Creativity. As entrepreneurship essentials introduces students to the entrepreneurial journey, from finding an idea, to gaining traction in the marketplace, to raising capital for their venture, Eshan College of Engineering hosted an "Entrepreneurship Essentials" seminar from 04/09/2017 to 05/09/2017 in Seminar Hall.

The foundation of this seminar lied on the fact that Entrepreneurs are very goal-oriented and know exactly what they want. They set their goals and everything they do is aimed at achieving those goals. Having a strong vision helps propel you toward accomplishment. For student enrichment, this realization is very important as five factors will be key to entrepreneurial success: creativity, tolerance for risk, responsiveness to opportunities, leadership and the ability to take advantage of the rights afforded. The process also





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Event- "Entrepreneurship Awareness Camp" (Three-days)

Subject Area- Entrepreneurship

Organized by- TBI-KIET, Ghaziabad

As the Indian economy has changed a lot since liberalization, there are potential industries where there are ample opportunities for entrepreneurship. With the development of entrepreneurship ecosystem in India, if youth can tap into the national ecosystem, then, the potential of the industries can be explored and scaled up. As our objective was developing entrepreneurship attitude/abilities of students through participation in entrepreneurship camps, 21 students of B. Tech (IIIrd year) ME and CSE successfully completed a **"3 days Entrepreneurship Awareness Camp"** organized from 07/03/2022 to 09/03/2022 at our college campus.

The entrepreneurship awareness camp intends to impart participants with the knowledge, skills and attitude related to entrepreneurship. Distinguished dignitaries participated in the opening ceremony on day. The agenda for Day-1 included-

- Opening Ceremony
- Welcome address and lighting of the lamp
- Introductory welcome by our Director





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- Presentation by students on basics of Entrepreneurship
- A factory visit to impart working fundamentals in the students.

The second day's objectives were-

- To equip the participants with the basic knowledge of entrepreneurship so that they could explore and start business in the near future.
- Leadership skills, like commitment, time management, and organization.
- Financial acumen, including skills like budgeting and the ability to understand and analyse financial performance metrics.
- Strategic thinking including adaptability to understand situations and devise appropriate responses.

The third day focussed on creating awareness among faculty and students of Engineering and Science courses about various facets of entrepreneurship as an alternative career option as also to highlight the merits of pursuing such an option. The agenda included-

- Market orientation, or an understanding of an endeavour's target market(s), those markets' unique priorities, and potential competitors.
- Analytical skills to research and analyze data to identify cause-effect relationships or trends that should inform decision-making and strategy.
- Marketing skills, like communication and public speaking, technology and social media, and negotiation.

Concluding words of our experts stated problem-solving, especially in terms of the ability to not be easily rattled and communication skills including the ability to communicate clearly and persuasively, empathy and active listening, emotional intelligence, and open-mindedness.





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Detailed Report

Event- "Entrepreneurship Awareness Camp" (Three-days)

Subject Area- Entrepreneurship

Organized by- TBI-KIET, Ghaziabad

A "3 days Entrepreneurship Awareness Camp" was organized from 09/03/2022 to 11/03/2022 at Eshan College of Engineering campus. The primary aim of conducting entrepreneurship awareness camp was to encourage the students to take entrepreneurship as a career. The program created awareness among the students regarding the distinct dimensions of entrepreneurship while highlighting the merits of adopting it as a career option. During the program, different sessions were conducted that completely focussed on the entrepreneurial mindset and the challenges and risks an entrepreneur must take while setting up an enterprise.

Entrepreneurship courses and curriculums are becoming options for an increasing number of students. Even schools without a formal entrepreneurship curriculum are increasingly teaching real-world skills beneficial to future business owners like collaboration and teamwork, public speaking, and creative problem solving. It is our responsibility to continue building this aptitude in students at college level also. Hence, in this camp, speakers stated that Entrepreneurship education cultivates innovative talents, which are an important driving force for future development. At present, innovation-driven development strategies place new demands on entrepreneurship education. However, most of





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The current research and discussion in this field focuses on the construction of teaching staff in the entrepreneurial education ecosystem.

21 B. Tech (IIIrd year) EE and CE students to perform and excel in a camp which was extremely crucial for their careers. A platform was provided for the open and productive exchange of ideas and knowledge to become an entrepreneur. To raise awareness of various aspects of entrepreneurship as an alternative career choice among faculty and students, experts highlighted the merits of pursuing this as a career option. Certificates were distributed to the participants during valedictory function held on 11/03/2019.





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Seminar on- "Entrepreneurship Roles In Business Functions"

Subject Area- Entrepreneurship

Organized by- Department of Computer Science and Engineering

An entrepreneur is an individual who creates and grows a business through their creative ideas. Entrepreneurs play key roles besides generating income as they grow their businesses. An entrepreneur identifies a commercial need in their community, crafts a business idea and takes the lead role to start their business. Entrepreneurs set up businesses for a variety of reasons. Ultimately however, successful businesses survive by meeting customer needs. Entrepreneurs must have a range of characteristics and motives to create a successful business. Owing to this growing significance of entrepreneurship, a seminar was held on **"Entrepreneurship Roles In Business Functions"** (29/04/2021) in Seminar Hall.

It is said that an economy is an effect for which entrepreneurship is the cause. Entrepreneurship development has therefore become a matter of great concern in all countries. But the real problem is how to develop entrepreneurship. Entrepreneurship development programs, or EDPs in short, are deemed to offer the solution to this problem. The seminar was devoted to reflect the ground realities and a collective consensus on addressing how entrepreneurship will prove to be a pivotal point in terms of meeting the country's inclusive economic development goals while also establishing a robust community. The resource





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person was Mr. Ramendra Kumar Sharma, Retd. Divisional Manager, Canara Bank, Agra who propagated-

- Different perspective about entrepreneurship development through innovations during uncertainties
- Entrepreneurship discourse and transformation through marketing activities and Professional Investment.
- Factors affecting small-scale industry, role of businessmen in economic development, entrepreneurial behavior and the facilities available for establishing small-scale enterprise.
- Motivation training - Participants were induced and their need for achievement is increased which in turn helps in building confidence and positive attitude.
- Management skills - Small businessmen cannot afford expert managers, therefore knowledge of finance, production, marketing and human resource was imparted to them.
- Support system and procedure - Support available from different institutions was informed and the procedure for approaching them, applying and obtaining support also explained.
- Fundamentals of project feasibility study - Participants were taught how to carry out the analysis and the feasibility of marketing, organization, technical, financial, and social aspects.

A total of 62 students were present. The seminar commenced with the lighting of lamp and welcome introduction of dignitaries. A vote of thanks by Head, Department of Computer Science and Engineering encouraged students and





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appreciated the constructive platform that the seminar provided them for entrepreneurship.





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Seminar on- **"Entrepreneurship Skill Development (ESD)" (Two-days)**

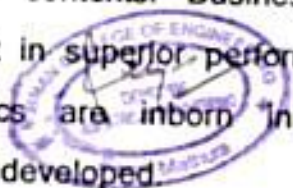
In association with- **Dawar Footwear Industries, Agra**

Subject Area- **Entrepreneurship**

Organized by- **Staff, ECE**

Entrepreneur development is the process of improving the skills and knowledge of entrepreneurs and enhancing the capacity to develop, manage and organise a business venture by considering the risks involved in it. In order to ensure business awareness in B. Tech final year students, a two-days seminar/lecture entitled **"Entrepreneurship Skill Development (ESD)"** in association with Dawar Footwear Industries, Agra, was organized in Eshan College of Engineering (12/10/2018- 13/10/2018). There were 51 participants present.

Introductory remarks of our Director stated that entrepreneurial skills centre around attitudes, such as persistence, networking and self-confidence on the one hand and enabling skills on the other hand, including basic start-up knowledge, business planning, financial literacy and managerial skills. Effective entrepreneurship education policies and programmes focus on developing these entrepreneurial competencies and skills, which are transferable and beneficial in many work contexts. Businessmen possess certain traits or competencies, which result in superior performance. The question that arises is whether these characteristics are inborn in the businessmen or whether they can be induced and developed.





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The aim was to strengthen the capacity and desire of more individuals to start their own enterprises, and develop an entrepreneurial culture in society. Resultantly, honoured Chairman of Dawar Footwear Industries, Agra, Shri Puran Dawar agreed to be the key resource person.

- Day 1- The students were trained to become entrepreneurs and operate skilfully and competently in the competitive market. Entrepreneurs have to be multitaskers since they must perform numerous things at once. As a result, having various talents such as discipline, ethics, and the ability to communicate effectively is necessary. These skills of entrepreneurs assist them in gaining people's trust and respect as well as growing their firm.
- Day 2- Students were taught to have a mission of being an entrepreneur first and then act accordingly. The only way to improve their professional communication abilities is to practice assertiveness. Enhance their professional writing abilities. To take their firm to the next level, entrepreneurs need a good strategy. They must continue to research business concepts and learn how to target your market. The information related to the rules and regulations is essential for individuals, as presented by Director, ECE during concluding speech.





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Detailed Report

Event- Faculty Development Programme on "Entrepreneurship" (Two-weeks)

Subject Area- Entrepreneurship

Organized by- Institute of Entrepreneurship Development, Uttar Pradesh

Faculty Development Programme (FDP) aims at equipping teachers with skills and knowledge that are essential for inculcating entrepreneurial values in students and guiding and monitoring their progress towards entrepreneurial career. A two-weeks Faculty Development Programme on "Entrepreneurship" was hosted at Eshan College of Engineering, Mathura. There were 54 faculty members. The FDP continued from 26/10/2018 to 06/11/2018 to equip and empower the educators from academia with substantial skills and competencies that are essential to inculcate the spirit of entrepreneurship among students, so that they can act as resource persons in guiding and motivating young minds particularly from science and technology stream.

The educational institutions have an extraordinary talent pool with virtually limitless potential to create the conducive environment to enable student innovators to become entrepreneurs. So, the FDP mainly concentrated on Achievement Motivation Training, Business Opportunity Guidance, Preparing Bankable Business Plan, Information on Management Issues, Technology Issues, Interaction with successful Entrepreneurs and Laws and regulations related to MSMEs during the first week. They were also taught how-





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- To develop vision, strategy & structure for Entrepreneurship Development Programme in Educational Institute
- To inculcate entrepreneurial values among the students
- To organize EAC and Entrepreneurship oriented courses in the Institution
- To co-ordinate entrepreneurial activities in their region through Entrepreneurship Development Programmes

Entrepreneurs play a key role in any economy, using the skills and initiative necessary to anticipate needs and bring good new ideas to market. Entrepreneurs who prove to be successful in taking on the risks of a startup are rewarded with profits, fame, and continued growth opportunities. Those who fail, suffer losses and become less prevalent in the markets. Various topics like Selection tools and Techniques for identification of Entrepreneur, Market survey and Marketing techniques for startup/SMEs, Entrepreneurial Competencies, Copy Right and Patenting, Experience sharing of entrepreneur, Project Report, IP Policy and Technology and Commercialization Technique have been covered by respective experts in the second week. Our Director honoured the officials of Institute of Entrepreneurship Development, Uttar Pradesh for their initiative by presenting mementos.





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Detailed Report

Seminar on- "Research Methodology-Understanding Publication Ethics" (Two-days)

Subject Area- Research Methodology

Organized by- Faculty, ECE

Accurate reporting of results of research depends on the integrity of the authors, their application of and compliance with guidelines relating to the assurance of an ethical approach throughout and on robust institutional research governance protocols ensuring that study design, conduct, and analysis of research and the publishing process all comply to an ethical framework. It is important that persons involved in the research must be compliant with the ethical framework in which they should function as publication ethics are an integral part of scientific research and publishing. staff and faculty collaborated to hold **"Research Methodology-Understanding Publication Ethics"** seminar (14/09/2018-15/09/2018) under the guidance of Director ECE, Dr. Ghanshyam Srivastava.

We wished to make students confident about their work but ethical standards for publication exist to ensure high-quality scientific publications, public trust in scientific findings, and that people receive credit for their work and ideas. Taking the ideas and work of other scientists without giving them credit is unfair and dishonest. Copying even one sentence from someone else's manuscript, or even one of your own that has previously been published,



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Without proper citation is considered plagiarism. Many journals have tools and processes in place to identify researchers that engage in unethical behaviour. If you are caught your manuscript may be rejected without review and your institution informed.

48 participants attended the seminar and our speakers Dr. G. Srivastava and Dr. S.K. Gautam engaged students in understanding the five pillars of research (originality, ethics, authority, quality of knowledge and nature of knowledge). Further, students were also given information about software to curb plagiarism, research impact assessment and methodological framework for quality research. Philosophy of ethics, scientific conduct, publication misconduct, citation database, reference management and qualitative research were also highlighted. The session ended with doubt clarification and student suggestions.





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Detailed Report

Event- "Ideathon-21" (Two-days)

Subject Area- Research Methodology

Organized by- Tech Benchers (Student Club)

Ideathons are intensive brainstorming events where individuals from different backgrounds, skills and interests converge to diagnose predefined problems, identify the best opportunities and ideate the most viable solution. An ideathon may require just ideas, a solution, a roadmap or an actionable plan. Ideathons are typically time-bound, spanning a few hours to a couple of days. Participants identify and propose creative solutions to some of the major issues at the intersection of tech and policy. This encouraged the student club of Department of Computer Science & Engineering "Tech Benchers" to host **"Ideathon-21- The 2021 solution challenge mission to solve one or more of the 17 Sustainable Development Goals"** for B. Tech (CS, EE, ME CE) students from 28/12/2021 to 29/12/2021. There were 43 students who participated in this event.

The competition was not about just recognizing the ideas but taking the ideas to the next level and an effort to make them motivate toward entrepreneurs and bring a revolution in young minds about being self-dependent. It was to help the participants and audience students sharpen their minds and give them the opportunity to express themselves, learn entrepreneurship and develop their practical knowledge about idea pitching and startup. It was also to provide a





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platform for intellectual interactions and setting up fair competition among involved creative brains.

Day 1 initiated with welcome and problem statement by organizers followed by-

- Session 1 (New approach for hiring),
- Session 2 (Resume Building) and
- Session 3 (Sustainable)

They were presided over by Mr. Sai Teja V, Facebook Product Manager, Ms. Monika Gambhir, Resume Strategist and Mr. Michael Rada, Human & Industry 5.0 Founder & CEO respectively. The sessions were mediated by idea representation interaction with participants.

Day 2 started with organizers' interaction and idea representation of top 6 teams. It continued with-

- Session 4 (Social media for personal branding) and
- Session 5 (Non-tech)

These were led by Ms. Mishka Rana, LinkedIn Strategist & Twitter Marketing Expert) and Bouchura Al Hamuni, Founder- Boxra. Next, ultimate decision was given by judges followed by closing ceremony. Judges also familiarized students and participants about current contemporary trends of IT entrepreneurship and provided our participants with grand exposure to the inspirational groups of active young entrepreneurs.





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Detailed Report

Seminar on- "Innovation and IPR"

Subject Area- Research Ethics

Organized by- Faculty, ECE

Innovation means doing something new that improves a product, process or service. Many innovations can be protected through intellectual property (IP) rights. Inventions are the bedrock of innovation. An invention is a new solution to a technical problem and can be protected through patents. Patents protect the interests of inventors whose technologies are truly ground-breaking and commercially successful, by ensuring that an inventor can control the commercial use of their invention. Generally, to obtain a patent an inventor needs to demonstrate that their technology is new, useful and not obvious to someone working in the related field. Targeting this, seminar on the topic **"Innovation and IPR"** was organized on 05/04/2021 at Seminar Hall, Eshan College of Engineering campus where 37 participants attended the seminar.

With the increasing focus on innovation, research and cross-border collaborations, need to learn about intellectual property rights (IPRs) to safeguard their inventions has increased among the students. As countries turn to innovation and creativity for sustainable development, need to understand the importance of IPRs has increased. The demand for IP is increasing, especially in developing countries. Protecting and managing research results are the most significant benefits of IPR for researchers. Its also essential to know about the





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rights related to authorship in connection with research publications and the right way to protect R&D innovations.

Mr. Vinay Gupta was the resource person of this event and actively participated in ensuring students to inculcate the concept of Intellectual Property Rights to induce them towards innovation. The resource person shared his expertise on Intellectual Property Rights. The session focused on Trademark, copyright and Patent registration procedure to make students learned and skilled in this area for all-round development. Timely filing of copyrights and patents is important to prevent disputes with other researchers. With the right expertise, they can safeguard research and hard work. Most participants were able to distinguish and identify various forms of IPRs, identify criteria to fit one's own intellectual work in particular form of IPRs and apply statutory provisions to protect form of IPRs during brainstorming session held at the end of the seminar. Concluding remarks of our director included this serves as a mechanism for institutions to promote innovation, research, and development while evaluating their overall performance. Our esteemed Chairman also participated in the significant session.





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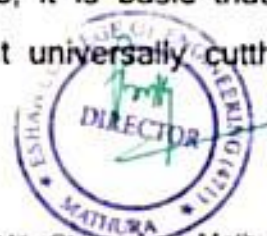
Seminar on- "Intellectual Property Rights (IPR)"

Subject Area- Research Ethics

Organized by- Department of Applied Sciences and Humanities

A working understanding of intellectual property (IP) is needed to understand and manage IP issues, take informed decisions right from the onset of research till the invention and past it, how to handle day to day work without errors and know when to contact IP/TT experts. IP management by faculty, students and staff need not be time-consuming. Neither you are expected to become an expert in IP management and technology transfer. Just sufficient awareness is needed so that you can use the resources available without issues and optimise your opportunities. On 06/01/2022, an awareness programme on **"Intellectual Property Rights (IPR)"** was prearranged by ECE in which 53 participants were present.

IPR are the rights provided to those persons who are creators of their ideas. Briefs related to IP and its rights, types of IP, Patents and popular areas of Patent filing were provided by Dr. S.K. Gautam. He also stated that its significant for college understudies to comprehend the subtleties of IPR and its advantages. Teachers structure the structure squares of society and as innovation takes increasingly more significance in our lives, it is basic that the change starts with our instructing local area. In the present universally cutthroat





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job of protected innovation is unavoidable in each calling going from specialists, engineers, professionals, administrators, among others.

Dr. V. Gupta of this institute highlighted awareness about IPR issues, development of innovation strategies, improvement in IP protection and enhancing capacity to fight counterfeiting to improve the protection and enforcement IPR from infringements. He mentioned that IPR is a basic requirement for participating in local and worldwide competitive trade, as it is impossible to create an inventive environment without disseminating and implementing IPR information. It is critical for policymakers to incorporate intellectual property rights into the fundamental educational system and to encourage innovators and creators to register their inventions. India and other developing countries will explore Intellectual Property Rights in order to increase their fair share of global trade. The session concluded with Q&A by faculty and students.





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Detailed Report

Event- Awareness Programme on "Intellectual Property Rights (IPR)"

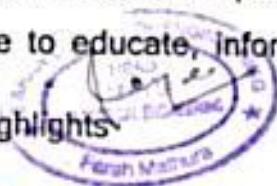
Subject Area- Research Ethics

Organized by- Office of T/P, ECE

Intellectual Property Rights (IPR) Awareness is critical to shaping an environment that is conducive to fostering creativity & innovation in the country. One of the key focus areas is students in colleges, as it is essential to nurture creativity and the ability to innovate from a young age. Intellectual Property is the product of a person's intelligence, creativity, hard work, and skill. It results from an idea that comes to one's mind and is given creative expression. So it is necessary that youngsters are enriched with basics of Intellectual Property Rights. On 12/02/2019, an awareness programme entitled **"Intellectual Property Rights (IPR)"** was organized by Office of T/P, Eshan College of Engineering, Farah, Mathura.

39 participants attended this seminar. Our honourable faculty member Dr. V. Gupta delivered lecture on background of intellectual property, its importance and significance to nurturing youth that respect the IP rights of self and others. Specially as IPR Awareness is a prerequisite for shaping an environment crucial to fostering creativity and innovation in the nation. He stated building respect for intellectual property (IP) involves more than just enforcement; we also have to educate, inform and change attitudes.

Event Highlights





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The primary focus of this Policy is towards promoting innovation and creativity, especially amongst entrepreneurs and in higher education institutions.

- The Policy brief specifically mentions synergising all forms of IPR, concerned statutes and agencies for tapping the creativity and innovative energies in India with a special emphasis on start-ups and educational institutions.
- Experts believe it is crucial for students to know their way around Intellectual Property Rights.
- Apart from the many benefits of IPR, students can learn about the ways in which they can safeguard their creations, giving them a competitive edge over their peers.





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Detailed Report

Seminar on- "Machine Learning & Data Science using Python"

In association with- JN Tech Network, Noida

Subject Area- Research Methodology

Organized by- Staff, ECE

Data science is a field that has exploded in popularity in recent years, and for good reason. Companies across industries are increasingly relying on data to inform their decision-making, and skilled data scientists are in high demand. When it comes to data science, we need some sort of programming language or tool, like Python. It has become the programming language of choice, particularly for data science. Although there are other tools for data science, like R and SAS, we will focus on Python and how it is beneficial for data science. Seminar on **"Machine Learning & Data Science using Python"** in association with JN Tech Network, Noida was hosted on 24/03/2021 for 65 B.Tech CS students (IInd, IIIrd and IVth year) who were present.

Machine learning is a field of computer science that uses statistical techniques to give computer programs the ability to learn from past experiences and improve how they perform specific tasks. Machine Learning can be an incredibly beneficial tool to uncover hidden insights and predict future trends. This Machine Learning with Python course will give all the tools to get started with supervised and unsupervised learning. Due to the complex, scientific computing nature of machine learning applications, Python is considered the most suitable



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programming language. This is because of its extensive and mature collection of mathematics and statistics libraries, extensibility, ease of use and wide adoption within the scientific community. Experts highlighted this vitality of Python in lives of engineering students and covered key concepts such as-

- Cross Validation & Bias-Variance Trade-off,
- Recommender Systems, Natural Language Processing and
- Machine Learning Algorithms.
- The difference between the two main types of machine learning methods: supervised and unsupervised
- Learning algorithms, including classification and regression
- Clustering and Dimensionality Reduction
- How statistical modelling relates to machine learning and how to compare them?
- Real-life examples of the different ways machine learning affects society

The session ended with vote of thanks and student feedback which further motivated the department to arrange such events repeatedly.





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Detailed Report

Event- "Reverse Code (C Quiz Competition)"

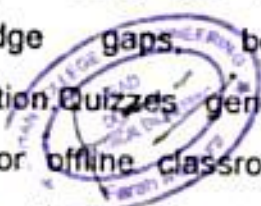
In association with- HackerEarth

Subject Area- Coding

Organized by- Faculty, ECE

Reversing a number in C programming means changing all the digits of a number to bring the digit at the last position to the first position and vice-versa. There are multiple ways to write a C program to reverse a number. This C program reverse the number entered by the user, and then prints the reversed number on the screen. Reversing a string is the technique that reverses or changes the order of a given string so that the last character of the string becomes the first character. It has a significant role for engineers and coding experts. For enticing students' competency and test their knowledge, An online quiz on **"Reverse Code (C Quiz Competition)"** was launched on 15/05/2021.

There are numerous methods for teaching and consolidating what has been learned in the world of Education. Teaching is evolving. Today, there is a greater emphasis on unity and wellbeing and on assisting students in their learning. Adding quiz in teaching methods improves concentration, identifies knowledge gaps, boosts confidence, and helps children retain information. Quizzes generate a distinct atmosphere and environment in the online or offline classroom. It gives pupils a respite while also entertainingly teaching them. This is extremely beneficial to both the instructor and the





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Student

also fosters a positive relationship between students and teachers.

This was the fundamental reason behind us encouraging such a contest.

There were 38 B. Tech (CS, EE, ME and CE) students who participated in the contest which was coordinated by Mr. Kuldeep Singh. Shivam Garg (B. Tech CS, 1st) year dutifully fulfilled the responsibility of student coordinator for the same. The quiz was taken via online mode on HackerEarth and students were acknowledged for their performance through valedictory ceremony in the college campus. This refreshed their minds and sharpened them for better academic performance.





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Detailed Report

Event- "National Conference on Recent Trends in Science, Engineering and Management (RTSEM-2022)"

Subject Area- Research and Development

Organized by- Department of Computer Science and Engineering

Eshan College of Engineering organized the "National Conference on Recent Trends in Science, Engineering and Management (RTSEM-2022)" on 09/06/2022 in our institution. The objective of the Conference was to provide an opportunity for Researchers, Academicians, Practicing Engineers and Students to meet and exchange ideas and explore new avenue of research and development. This Conference focussed on recent trends in Computer Science Engineering, Electrical Engineering, Electronics & Communication Engineering, Mechanical Engineering and Management with a special emphasis. The keynote speakers were Prof. D.K. Lobiyal from JNU, Delhi and Prof. Manu Pratap Singh from DBRA University, Agra.

Speakers talked about the importance of conferences in present days. They mentioned conferences discuss the latest trends concerning particular topics. Conferences are a great medium to get acquainted with new trends, future plans, solutions and how to adapt to them. They can help students gain an in-depth knowledge of the subject matter. In addition, a high-quality sound system, high-resolution video presentation, and journals can add great value to the knowledge base. Also, this conference was important according to them





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because it allowed experts in one field to gain insight into breakthroughs and paradigm shifts in other, closely linked fields. Ideas in one field may be relevant to another, and sharing these ideas might have helped young researchers solve their own research problems by adapting ideas from another.

Chief Patron of the Conference and Chairman of governing council Shri Sanjay Agarwal blessed the occasion. CA Saksham Agarwal, Chairman ECE focussed on the need of skill development along with academic excellence. Conference Organizer was Dean R&D Dr. Faize Ali Shah while Er. Vyom Kulshrestha was the Convener. The conference turned into a massive success with 50 research papers selected out of 100 as per our respected Director Dr. Pankaj Sharma. The conference was held in two tracks and diversified academic outreach of the college.





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Detailed Report

Seminar on- "Research Methodology- Understanding Publication Ethics" (Two-days)

Subject Area- Research Methodology

Organized by- Department of Computer Science and Engineering

Accurate and ethical reporting is crucial to the quality of scientific research that is published. Unethical practices such as falsification of data and plagiarism cause long-term damage to the dependability of published literature. Publication ethics refers to the set of principles and guidelines that govern the behavior of authors, editors, and publishers in the academic and scientific community. The aim of publication ethics is to ensure that research is conducted and reported in an honest, transparent, and ethical manner, and that the integrity of the research process and the scholarly record is maintained. It is mandatory to inculcate this concept in the minds of students as they are a crucial element of the future of ethical research hence a seminar on **"Research Methodology- Understanding Publication Ethics"** was held from 20/06/2022 to 21/06/2022.

Today, there are new and emerging ways of conducting research, like participatory action and autoethnography research that raise a critical, but distinctly different ethical concerns and obligations for researchers. Additionally, research that involves vulnerable groups of people, such as people who are institutionalized, people with cognitive or developmental disabilities, children, people without legal status or the homeless also raises concerns in any





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research context. Undeniably, researchers face several ethical requirements. Every researcher must meet the set institutional, federal and professional standards for conducting research that involves human participants. The two-days seminar was well informative as Dr. Pankaj Sharma and Dr. S.K. Gautam briefed students about research envisioned in NEP2020.

Key Highlights-

- Exploring the quality requirements for present-day research methodology and
- Framing out methodology approach for re-establishing the IKS as part of the research paradigm.
- The application of basic ethical concepts to research activities, such as the design and implementation of research, respect for society and others.
- The use of resources and research outputs, scientific misconduct, and research regulation.
- Ensuring that research is done in a manner which serves the interests of people, groups or society.

There were 44 participants who attended the seminar. Students also participated in a concluding brainstorming session which proved beneficial. Concluding remarks of our honourable trustee ma'am were positively inclined towards publication ethics and their role in present-day research. She ensured producing alumni who are ethical in practice and spread its vitality in the corporate workspaces.





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Detailed Report

Seminar on- "Entrepreneurship: Need and Demand In Current Days"

Subject Area- Entrepreneurship

Organized by- Staff, ECE

An entrepreneur identifies a need that no existing business addresses and determines a solution for that need. Entrepreneurial activity includes developing and starting a new business and implementing a business marketing plan, often with the end goal of selling the company to turn a profit. Entrepreneurship requires a unique set of skills including self-determination, self-motivation and perseverance. Whether you've conceptualized a solution to a known problem or you've simply decided to work for yourself, you'll want to establish a business. For better information on this, seminar on **"Entrepreneurship: Need and Demand In Current Days"** was organized for the faculty and students on 16/02/2022, joined by 46 participants.

It was highlighted that entrepreneurship is a key factor for economic development. There is an increased rate of students across developed and developing countries considering the issue of self-employment. It is about creating value and ideas, about possessing internationally convertible leadership skills and about cultural diversity. The objective of this session was to motivate students towards entrepreneurship as it can create employment for the future generations. Some other objectives fulfilled in this seminar were-





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- Entrepreneurship is always evolving, and while some view entrepreneurship as something one is born to do, entrepreneurs should continue their education to improve themselves professionally.
- Entrepreneurship does not end with the creation of a start-up or in pursuing an already consolidated economic reality; it manifests itself in everyday life.
- Emerging Research and Opportunities provides innovative insights into educational strategies for the continued preparation of entrepreneurs.
- The content examines economic theory, lifelong learning, opportunistic and positive thinking, business creativity, and operations management.





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Detailed Report

Seminar on- "Taguchi Methodology & Its Application in Research

Methodology" (Two-days)

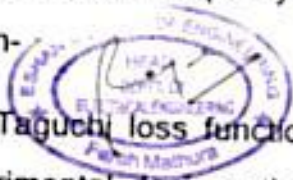
Subject Area- Research Methodology

Organized by- Faculty, ECE

The Taguchi method of quality control is an approach to engineering that emphasizes the roles of research and development and product design and development in reducing the occurrence of defects and failures in manufactured goods. The Taguchi method gauges quality as a calculation of loss to society associated with a product. It optimizes design parameters to minimize variation before optimizing design to hit mean target values for output parameters and uses special orthogonal arrays to study all the design factors with minimum of experiments. Hence, it is very vital for students to gain complete knowledge of this method for professionalism. Department of Electrical Engineering gave this opportunity by organizing a seminar on **"Taguchi Methodology & Its Application in Research Methodology"** from 10/10/2017 to 11/10/2017.

There are three components of Taguchi methods that must work in concert to achieve higher product quality. Product managers and engineers should become familiar with-

- The Taguchi loss function
- Experimental designs that account for external influences
- Achieving product quality through off-line processes.





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So, it is very necessary for students to understand its application in greater depth. This was the mission of inaugurating a two-day session on Taguchi method. There were 34 participants who joined the seminar. First day began with fundamentals of classical statistical methods and Taguchi methods, design of experiments focussing on Taguchi method and its application conveyed by speaker Dr. S.K. Gautam, AP, ASH. The eight points to this method, properties of orthogonal arrays, matrix experiment and S/N ratio were discussed in detail by Prof. Manish Kumar, AP, ASH. Final quiz on Taguchi method was the key highlight where students performed exceedingly well.





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Detailed Report

Seminar on- "Research Methodology- Understanding Publication Ethics" (Two-days)

Subject Area- Research Methodology

Organized by- Department of Electrical Engineering

The topic of research ethics is important not only when conducting research but also when publishing it. It is one of the crucial pillars for maintaining scientific integrity and credibility. The onus to implement fair practices lies with researchers, universities/institutions, and publishers. Ethical policies addressing issues related to plagiarism, fabrication, conflicts of interest etc. are being outlined at different governmental and academic levels. A seminar on **"Research Methodology- Understanding Publication Ethics"** (07/08/2017-08/08/2017) was organized by ECE, Mathura to develop students' aptitude in this regard.

Keynote speaker Dr. Ghanshyam Srivastava, Director ECE highlighted that authors must accurately present their research findings and include an objective discussion of the significance of their findings. Uphold accurate authorship, by including all and only those who qualify for authorship and clearly stating their contribution. Disclose any facts that might be perceived as a possible conflict of interest at submission. Present their data and methods with attention to detail. Data and methods used in the research need to be presented in sufficient





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The manuscript so that other researchers can replicate their work. Raw data must be made publicly available unless there is a compelling reason.

Dr. S.K. Gautam intended to provide a concise yet comprehensive resource to graduate students and early-stage researchers. He identified common areas where researchers often face doubts and challenges. He shared insights on popular topics such as how to assign authorship, how to avoid image manipulation and plagiarism, how to manage research data effectively, or how to identify conflicts of interests. This talk provided students with ample tips for effectively handling all such situations with ease. 33 participants were present.

