Endeavouring on to its mission of transforming education, Lovely Professional University is devoted to serve learners from all backgrounds, regardless of their ethnicity, religious affiliation or gender identity, in accordance with the United Nations’ Sustainable Development Goals (SDG). Advancing on the mission with piety, LPU has been ranked among the top 70 institutions in India according to the NIRF Ranking 2021, Government of India. When the entire world witnessed the aftermath and consequences of the novel SARS-COV-2, LPU scientists and researchers focused on research and scientific work for effective and efficient solutions for detection and prevention of COVID-19. The traditional model of teaching was substituted with the digital and online platforms. The academic year 2019-20 came with various challenges waged by pandemic COVID-19 affecting lifestyle, including the online education due to lock-down. In the initial phase, when things were quite ambiguous, LPU was one of the first educational campuses to start online teaching at the earliest. Instead of being just dependent on the circumstances, LPU has used the challenges as opportunities and created a variety of innovative practices in teaching-learning, examination and other aspects of education. The adaptation to the new normal without compromising the quality and outreach of schooling was made at a heightening pace including the online education due to lock-down. In the initial phase, when things were quite ambiguous, LPU was one of the first educational campuses to start online teaching at the earliest. Instead of being just dependent on the circumstances, LPU has used the challenges as opportunities and created a variety of innovative practices in teaching-learning, examination and other aspects of education. The adaptation to the new normal without compromising the quality and outreach of schooling was made at a heightening pace

1. INTRODUCTION

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2. ACADEMIC INITIATIVES:

LPU is taking initiative to promote educational outreach activities beyond the campus with various awareness programs through its students and faculty members even during the unprecedented times waged by COVID-19. One of the aims of LPU is to share the scientific knowledge with underprivileged communities to let them achieve their education goals and to excel in their life. The University has adopted around 20 villages where it provides academic support to uplift their ecosystem by providing platforms and letting them access to facilities available at the University. Awareness camps on education, best farming practices, health and hygiene are conducted by the students and faculty members on regular basis to build better ecosystem.

A. Regular Academics: Tab-1

The University adopts the strategies in differential intensity to offer quality and lifelong learning, Experiential Learning, Participative learning methods and Problem-solving methodologies are used across the University to foster high-level cognitive and non-cognitive skills, such as critical thinking, problem solving, teamwork, creativity, conflict resolution and communication skills.

- **Experiential Learning** is facilitated by incorporating workshops, laboratories, tutorials, projects, and studio-based courses in the curriculum. Field visits, live projects, design projects, simulation, and training in industry-relevant software are other enrichment activities. Experiential Learning Courses like Fly Against Gravity, Intelligent devices and tinkering lab, Visual Design Project etc. are part of the first-year curriculum in which the student creates a discipline related project. Students area also given exposure of hands-on skills by working on Projects, industrial-trainings/internships etc. Students are exposed to industry-standard software like SPSS, XILINX, ETABS, ANSYS, ADOBE, MAYA, and various other programming languages & tools, wherever required. In addition to this, entrepreneurship courses along-with the case studies of ventures initiated on the campus by students add another meaningful dimension to learning. Over 100 Student Clubs in all disciplines of learning organize events in various areas of technical and social concern, to impart leadership, teamwork, organizational, and problem-solving abilities among students.

- **Participative learning methods** are adopted across the University in the form of discussions, simulation, popup quizzes, and other gamified activities to develop interest among the students. Demonstrations and practicals are used frequently to provide better understanding of the concepts. Group Discussions on emerging topics are an integral part of teaching in many courses. Various discipline-specific technical events conducted on the campus like Go-Kart championships, Solar-car championships, Concoction, Explorica, Project-Expo, and extra-curricular events like Youth Vibe, Magnitude, and Concotech, etc. help in enhancing the student learning experience.

- **Problem-solving methodologies** are used across the University to hone analytical and creative skills among students. Real-life situations are given to students for assignment and activities enabling students to apply their mind to analyse problems and craft possible solutions. Case study analysis is used in business management and law courses to link theory with professional practice and evolve higher-order skills. Design Problems are carefully framed to hone student’s problem solving and analytical skills.

- **Open Online Courses:** In many programmes, MOOCs are identified and incorporated into the curriculum for self-paced learning. All the classrooms and labs are multimedia-enabled and teachers make extensive use of technology and digital resources to make teaching dynamic, interesting, and student-centric. Some of the online classes are delivered in house and are being made available to general public through social media platforms.

B. Pedagogical Initiatives to deal with COVID situation

- Faculty were sensitized and trained to build and curate engaging content with new and effective delivery modes and methods through various forms of teaching-learning frameworks in an online environment. Some of the highlights of these methods are listed below:
• Conduct of Classes: There are many initiatives taken to improve the student involvement in the classes. User friendly LPU-My Class platform has been designed with various unique features like in-build interactive white board for online teaching, etc. Polling is conducted regularly to improve the engagement level of the students in the online classes. It helps the faculty to ask questions and measure student response in real time and accordingly to change the mode of delivery for addressing student needs. The faculty also hold quizzes in between sessions after each topic which helps in understanding the muddiest point for the students and allows the teacher to understand that which topic has to be focused on more. Students are expected to share the screen one by one to present solutions of practical class assignments as asked by the teacher. In this fashion students are evaluated for understanding, and after assessing shortcomings, inputs of varying degrees are delivered to students. Some students are fast learners and some are slow, these issues are addressed by evaluating their learning levels. My class interface also supports the creation of small learner groups within the laboratory classes to address issues of fast and slow learners via taking their learning issues separately. The instructor posts a topic or thread for discussion, and the student replies to the instructor and responds to other student postings. Through discussion boards, the student interacts with the course content, the instructor, and other students. For example LPU live. The students who are shy to speak up in face-to-face discussions can find their voice in online discussions. Students have time to reflect upon and research their responses providing higher quality online discussions. During online sessions especially the ones for coding, a problem statement is shared with the class and each student along with the instructor code along Screen sharing is done with code being written on IDE/online compilers making it efficient and effective.

• Myclass platform interface

• Availability of online resources: The LPU online library is enabling the students to get access to a large variety of resources including books, pdf, eBooks, test papers and much more. These resources accompany the students in their learning process to get knowledgeable content. Faculty are using LPU-live App to share additional learning resources.

• Use of Multimedia and Open Educational Resources (OER)

The OER helped in enhancing the quality of the teaching material. It helped the students who struggle to keep up or have not fully mastered key concepts or techniques. OER also appeal to an increasingly large group of students, inside and outside post-secondary education, who are interested in a topic, but don’t want to enrol in a formal program or course.

• Other Pedagogies for online teaching: Faculty are using following techniques to increase student engagement during COVID situation:

I. Creating Video content: Video learning is effective on both sides of the classroom; we use it to create time and space for active learning. Once a video is created, it can be reused and updated as needed, leaving more time in the classroom for live discussions and engagement with students. Visual cues combined with audio play a huge role in the comprehension and retention of new material.

II. Blog writing activity: Blogging improves the writing skills of students. In blogging, students write different kinds of articles on which others can express their views and opinions. Such blogs enhance their writing and comprehension skills.

III. Virtual Labs: Virtual Labs have been designed to provide remote access to labs in various disciplines of Science and Engineering. These Virtual Labs cater to students at the undergraduate level, postgraduate level as well as to research scholars. Virtual Labs enable the students to learn at their own pace and enable them to conduct experiments. Virtual Labs also provide a complete learning management system where the students can avail various tools for learning, including additional web resources, video lectures, animated demonstration, and self-evaluation. Virtual Labs can be used to complement physical labs.

IV. Portfolio design: Portfolios can encourage students to take more ownership and responsibility over the learning process. In some schools, portfolios are a way for students to critique and evaluate their own work and academic progress, often during the process of deciding what will be included in their portfolios for better representation.

V. E-Portfolios: It is also referred to as e-portfolios, are collections of student work stored in digital format. Portfolios provide a means of collecting and maintaining evidence for assessment online. They often have a reflection aspect, similar to blogging, and can include podcasts. Thus, within e-portfolios is a convergence among several types of social networking media.

VI. Co-creation of codes: code sharing and co-development in programming courses are done using platforms like GitHub, Bitbucket and colabs. This provides a higher opportunity of collaboration through co-creation of codes.

VII. Usage of Google forms for collecting research data: Google forms are now widely used to conduct surveys easily and quickly, since they allow you to plan events, ask questions to your employees or clients and collect diverse type of information in a simple and efficient way.

VIII. Online internship/certification: There are a large variety of specializations available through online courses, which our students exploit to excel in the professional careers. Participating in these online specializations helps the students to get exposed to a particular field before one commits oneself truly to it.

IX. Community development work: Campus closures means more than just a switch to online classes — college students are also separated from non-academic activities and interactions that take place on campus. From social activities and sports to concerts and clubs, the college experience has changed a lot this year due to the coronavirus outbreak. Some of activities in which our students participate are delivering education to the poor, Feeding the poor, virtual volunteering, etc. in their vicinity.

• Research Initiatives:

LPU is bringing the scientists and professionals together to accelerate the research and development process, and develop new norms and standards to contain the spread of the coronavirus pandemic and help care for those affected. In alignment of this following activities have been performed by LPU fraternity

• 20Sec4Life: AN IoT DEVICE TO TIME HAND WASHING

Researchers from Lovely Professional University have developed 20Sec4Life, an IoT device to time hand washing, that will glow, beep and play a musical tone for 20 seconds to ensure people disinfect their hands properly. It can be mounted on any liquid soap dispenser to ensure the user washes their hands properly as per the WHO guidelines for COVID 19. The splash-proof device operates via the battery and has been developed to combat the growing cases of COVID 19, which in many cases spreads due to negligence in observing the 20 seconds hand wash rule.
The base device is triggered and starts playing music for 20+ seconds when the nozzle of the handwash is pressed to dispense soap. The advanced version of the device can be connected via Wi-Fi network and can be paired and operated through a Mobile App.

KAWACH – A LOW COST IOT BASED DEVICE

In the wake of COVID-19, it has become imperative to maintain the one-metre distance from people to avoid coronavirus infection. To promote safe social distancing, a B.Tech student of Department of Electronics Communication and Engineering along with his faculty has developed an IoT device named KAWACH. A low cost and easy to carry device, KAWACH comprises of an LED, Vibrator, Controller, Battery, Human Body Temperature Sensor, Ultrasonic Sensor, Switch and a Storage Card. This device can be worn as a pendant, and it vibrates and glows if someone intrudes the user’s safe space of one metre. The device also features a hand wash reminder that beeps every 30 minutes to remind the user to wash his/her hands. The device’s temperature sensor alerts the users via SMS in case their body temperature crosses the prescribed limit.

Weblink: https://happenings.lpu.in/lpu-researchers-develop-20sec4life/

INTERDISCIPLINARY RESEARCH AT POLAND’S LEADING RESEARCH INSTITUTE

Scientist at LPU’s School of Pharmaceutical Sciences, Dr Devesh Tewari has accomplished important research works at the Institute of Genetics and Animal Breeding in Poland. The institute is the foremost part of the Polish Academy of Science. The visit was focused to learn new experimental and instrumental methodologies that could be used in the context of health and pharmaceutical sciences, for the general benefit of the global society. Dr Devesh also worked on various plants including Ashwagandha, Red-Sage Root, Ginseng, Punarnova and more to overcome ‘Bad-Effects of Alcohol Usage’, particularly on liver.

Weblink: https://happenings.lpu.in/poland-research-centre-invited-lpu-scientist/

PROMOTION OF TRANSDISCIPLINARY RESEARCH

LPU School of Social Sciences and Languages recently conducted the two-day International Symposium on the ‘Interdisciplinary Hermeneutic: Reappraising the Socio-Cultural Episteme’ at the Shanti Devi Mittal Auditorium. The symposium witnessed the presence of eminent creators, authors, poets, sociologists and psychologists.

Weblink: https://happenings.lpu.in/embracing-inter-disciplinary-research/
Innovation in Teaching-Learning Process during Online Teaching

Teaching Effectiveness Rating Engine (TERE): One of the challenges in the online education is lack of performance measure of teaching effectiveness. During physical teaching, the smiling bright faces of the students may serve as one of the indicators of engagement. But during online teaching, the absence of such performance indicator need to be addressed. Teaching Effectiveness Rating Engine (TERE) is to fill this gap. An Indian copyright SW-14125/2021 earned by LPU is an authentication to it. It has been developed by LPU to improve the overall teaching effectiveness. The students can participate & provide the feedback for each defined attribute by selecting the smiley icons. The system quantifies the level of satisfaction of the students with reference to various attributes. This helps a teacher to identify areas of improvement. It can also identify the best teacher based on the attributes.

Feedback Menu from a Student’s TERE Interface

A dashboard is available to analyze & visualize the result driven through TERE. The analysis also helps to take system level decision based on the teaching effectiveness among the teachers or among various departments or various type of the subjects and others.

The engine aggregates the student’s feedback on five parameters viz Quality of content, Examples/Application, Doubt clearing & interaction, Quality of Delivery, Value addition and puts it on to dashboard along with school average in the said parameter. This provides a real time recommendation to the faculty on areas of improvement.

‘Experience It Yourself’ (EIY): ‘Do It Yourself’ (DIY) is the best way to learn the ideology to bring the ideas into implementation, theory into application. But how to bring DIY during online education, when the students are too far? Specifically, when the experimentation requires instruments or devices or machines not easily manageable by the most students. This is a challenge remained almost unanswered even today, after a span of around one and a half year of lockdown and online teaching almost throughout the world. ‘Experience It Yourself’ (EIY) is a solution proposed and implemented by and at LPU. An Indian copyright L-93756/2020 earned by LPU is an authentication to it. Objectives of EIY are multi-fold and as under:

- Bringing industrial process to the e-classroom
- Enriching the e-classroom experience.
- Associating e-practicality to the content being discussed.
- Augmenting the foresight on how, why, what and when will be learned.
- Blending the experiential and shop floor learning.
- Adapting to the NEW NORMAL.

Methodology to achieve EIY

This would ensure due gaps filled for the Experiential Learning/Tinkering courses offered in regular/online mode thus no additional curriculum burden, both contact and credit wise will be added. This was slotted in the time table and was delivered in blended mode. In general, per subject five to six industrial products and the processes related to the manufacturing or development of such products were delivered as a content. The academic test and continuous evaluations were based on the same content.

The evaluation strategy has also been specifically designed for such courses.

Home Assignment (Non-Credited): Expecting students to visit places where they can view this product is being installed can correlate actual intention as well as application of product. Expecting students to visit manufacturing unit nearby, understand the process and correlate the same with the explanations provided in the video series.
Continuous Assessment (Credited): For each of the video there will be pre-designed questions on
- Basic process of the industry
- Equipment/Machinery/procedures
- Expectations
- Learnings
Marks would be accorded to each questionnaire

End-Term Evaluation (ETE): A report in a specified format is to be uploaded for a selected video
This report would be graded for CA and ETE marks would then sum up to grade

The outcomes of EIY is as under:
- Get familiar with the workplace environment and comprehend the processes and details of a computer product.
- Correlate the need and utility of content and appreciate the essence behind expectations.
- Foresee the upcoming course content and have “out of the book experience”.
- Novelty of design will pitch experiential learning in online mode uniquely.

### 3. Initiatives by Division of Examination

The Division of Examination at Lovely Professional University has been continuously introducing various reforms and innovative practices with the intent of providing a high degree of quality service to all the stakeholders. Some of the critical takeaways of quality assurance in examination systems include:

- Highest levels of integrity, confidentiality, and transparency in the conduct and evaluation through the introduction of IT-enabled systems.
- Quantifiable coherence between examinations and course learning outcomes so as to access learning behavior of the students at individual level.
- External audit of answer sheets and question papers from various course experts working in different reputed institutions across India.

Various Quality Assurance processes followed during the pre-COVID times have been further elaborated hereunder as:

- Online Questions Banks with Diverse question sets
- Smart Algorithm for Question Paper Generation
- Consistency in Answer Sheet Evaluation
- Answer Sheet Scrutiny by students

- Question Wise online entry of marks
- Verification on the go
- External audit
- Streamlining of Examination process through IT integration

During the state of pandemic, the Division of Examination undertook various measures and processes to cater to the needs of students in an unhindered manner. The majority of quality assurance measures as discussed in the above sections continued to be followed during the COVID-19 break out period as well, additional quality control measures include:

- Timely Conduct of Examining and related processes
- Online proctored examinations
- Online Mock tests and support
4. Mental Health and Connect with the students:

Mental Health is also a major concern worldwide and India is not far behind in sharing this. Thus, Lovely Professional University offers confidential and free professional counselling and psychological support. Lovely Professional University had a counselling cell for more than 5 years however, since 2018 the university has been more focused on the Counselling and Happiness Cell.

Counselling and Happiness Cell deals with the following:

**Individual Counselling:** Where one to one interaction is held between student and a psychologist, Student gets an opportunity to express their concerns freely and to discover ways to implement positive solutions.

**Group Counselling:** Where a common concern of more than one student is addressed and guidance is given to all.

**Parent guidance and counselling**

Consultation with parents is also available if the parents of the students need to discuss relationship issues together.

**Psychological Testing:** To assess aptitude, interest, I.Q. levels and other behavioural traits which can be put to optimum use of decision making for better future prospects.

**Workshops / SEMINARS:** The following workshops / seminars are conducted on psycho-education topics for holistic development, personal and professional growth.

Your DOST- A Virtual Go-To Friend

Pandemic has taken its fair share of tolls on the intellectual well-being of most people. The catastrophe has spread its tentacles into almost every facet of life. Lovely Professional University was one of the few universities already accoutered with a cadre of psychologists at the Department of Counselling & Happiness to tackle mental turmoil. Lovely Professional University acknowledged the gravity of the situation and the cataclysmic magnitude of COVID-19 not going anywhere anytime soon, and they did what’s best for students. Lovely Professional University joined forces with YourDost, which is India’s largest online counseling forum. It is a secured online counseling & emotional support forum conceived to proselytize mental wellness. It allows one to anonymously choose an expert from the panel consisting of psychologists, psychotherapists, counselors, life coaches, and career coaches, who might connect with individual and protégé you through totally private one-on-one sessions.

**Gender Sensitization**

An awareness session was conducted by department of Civil Engineering on Gender Sensitisation. It was held on 21st February 2020. The session was planned for the following objectives:

To sensitise students about the different genders and their roles in the society

- To help them identify the difference between sex and gender
- To help them understand the deep-rooted gender stereotypes
5. Outreach Activities:

Lovely Professional University is committed to provide equal opportunities of lifelong learning and quality education for general public including persons with disabilities, underprivileged children to get access to basic education by conducting various outreach activities. We are devoted to inculcate technical skills in them for their better future. During 2019-20, LPU organized more than 100+ events to promote educational outreach activities beyond the campus through its students and faculty members.

“Disha”, a social initiative of LPU, acts as a platform for the development and growth of all the stakeholders of education including teachers, students, administrators, staff etc. of various schools, colleges, NGOs and other educational institutes from all parts of the country. It aims to support and guide the students, teachers as well as the schools (as an organisation) through their experience about the ever-changing system of the education sector and helps them to adapt and grow as per the requirements of academically developing world. From clearing the dilemma of students by showing them the path to achieve their career goals by upgrading their mentors, teachers, parents etc., Thus LPU is working for the empowerment of each and every person who is a part of the education sector.

Disha, a social initiative of LPU

LPU NSS volunteers have been running the Gyandeep Project to eradicate poverty by empowering children through effective skill-based education. They deliver knowledge about different topics and subjects to them in an easier way, thus contributing generously to an emerging knowledge sharing among masses. Under the project, they organize various educational sessions in nearby villages to coach young underprivileged children whose families are not well-educated.

Gyandeep Project: Empowering Underprivileged

Educate a Child is an initiative by LPU’s United Nations Youth Community. Under this programme, children in nearby villages are educated. Members of the organization visit a nearby village on every Saturdays and Sundays and used to spend their time for building the upcoming future leaders of the nation. The main motive behind this program was to generate awareness among the local people about the importance of education in today’s world for their children and to make them realize the need for sending their children to the school.

Gyandeep Project: Empowering Underprivileged

Distribution of School Uniforms to the poor students

One of the other successful initiatives is ‘Nari – Her Right Her Pride’ which includes, an impactful self-defence session for women and a session organized on Menstrual Hygiene in the sundry villages and nearby slums to educate and reiterate the utter significance of Menstrual hygiene to edify on cautions and to prevent them from getting into serious health issues.

Nari-Her Right, Her Pride (Menstrual Hygiene Workshops and Sanitary Napkins Distribution)
LPU-NSS organized ‘Mega Cleanliness Drive’ under the title “Swachhta Pakhwada” in the adopted village, Kukkar Pind where the volunteers held cleanliness drive and conducted surveys regarding the same and spread words about the importance of cleanliness in daily life.

Faculty and students from LPU Fashion Design department conducted sustainability Workshops on ‘Jute Bag Designing’ and ‘Dry Wool Felting’ across different schools in New Delhi. The workshop exposed the school students to superlative knowledge and skills in promoting natural, planet-friendly products to protect the environment.

Human Resource Development Center, Lovely Professional University conducts variety of faculty and corporate development programs. Human Resource Development Center organized corporate training programs titled, Build People to Build Business for CLAAS India Private Limited, Morinda, Punjab. The program aimed at capacity building for business development, Teambuilding, Leadership. LPU-HRDC also conducted Corporate Training Program titled, Advanced Selling Skills at Chandigarh. The program also focused on capacity building for the development, decision making and delegation skills. The program was a rich mix of individual and team activities making the program interesting and interactive. The deliberations stimulated self-learning amongst the participants who actively participated in the program. It was relevant for enhancement in quality of leadership, Rapport Building Call control and assertive communication.

During pre-covid and post covid pandemic, LPU also conducted various offline and online trainings, awareness campaigns, seminars and workshops on topics of educational relevance like communication skills, eLearning, soft skills, educational leadership, higher order thinking skills, security of online social network, creativity and innovation, instrumental techniques, entrepreneurship, problem solving and decision making etc.
6. Access to University Education Resources

Lovely professional university (LPU) is one of the premier universities in India and always been a centre of attraction for the educationist, researcher and general public for its large and lush green campus. LPU endeavours in not only providing the quality education to its own students but also renders its educational resources to the outside students without any discrimination based on religion, gender, disability and region. The university resources such as, library, laboratories, auditorium, class rooms and online learning platforms etc. are primarily for the bona fide students but keeping wider perspective in mind and ensuring access to all, the university allows, the external users to use its educational resources. However, to use the various educational facilities in the university for the stipulated period of time one must take the permission of the competent authorities as per the policy framed by the university.

The central Library is one of the biggest education resources of the university and it welcomes non-members as well. The widely used section in the library by the outsiders is the LPU NSS section. The library covers books on different domains such as various disciplines, newspapers, magazines, journals etc. and open for the general public from 9 AM to 6 PM. Many outsiders visited the library in the year of 2019-2020 and utilized the facilities and resources of the university. Certain books of specific sections can be issued for even 3-month time span. The library is also equipped with the automated book returning system. By 2030, LPU is planning to give access of library facility to 1 million people including students and general public from nearby villages and cities.
University also encourages participation of the outsiders in the campus for various short-term courses (STC) and workshops. In the year 2019-2020 university has witnessed 20 events in which external participants were participated. These events were mainly focused on the latest technological and social aspects. Few of these events are discussed below

Professional Development Program titled, 'STC on Environmental Protection and Sustainability: Understanding the Perception of Risk', was organized at Lovely Professional University, Phagwara by Human Resource Development Centre from 05-Aug-19 to 10-Aug-19. The program aimed at awareness on Environmental Protection and Sustainability.

STC on Environmental Protection and Sustainability: Understanding the Perception of Risk

Professional Development Program titled, 'STC on Effective Business Writing', was organized at Lovely Professional University, Phagwara by Human Resource Development Centre. The program aimed at enabling the faculty to deal with Reading Comprehension and Cover letter effectively in the classroom. The intent was capacity building and preparing students for the placements.

STC on Effective Business Writing

A Virtual Professional Development Program titled, 'STC on Advance Excel for Data Analysis' was organized by Human Resource Development Centre & School of Computer Science and Engineering, Lovely Professional University, Phagwara from 15-June-20 to 20-June-20. The program aimed at enhancing ability of participants in spread sheet management and perform accurate data analysis through hands on Experience. During the COVID period the course was conducted virtually.

STC on Advance Excel for Data Analysis

Apart from short term courses university is also conducting guest lectures and events, where external participants from academia and industries are encouraged to participate. During the year 2019-2020 in total 128 events were conducted and where external people have participated. Details of few events/ guest lectures are discussed.

One day workshop was conducted on 'Workshop on eSim, a First Course in the IoT Series for Teachers' on dated 29-09-2019. The following aspects were covered in the workshop.

1. Creation of schematic of an astable multivibrator in eSim.
2. Simulating it and comparing the results with the corresponding hardware and with hand calculations.
3. Creating the Gerber file for the above circuit in eSim. Those who complete the Gerber file may optionally send it to a PCB making company (we will share their details during the workshop), get a circuit on a PCB made, and do the testing.

Workshop on eSim, a First Course in the IoT Series for Teachers
During this period the event was conducted virtually. The webinar was on use of MS word for the academic writing. The webinar focused on some writing tips and some advanced techniques in Microsoft Word. It includes using dash and hyphen, quotations and italicizing, outline view, styles, hidden text, key bindings, breaks, and bibliography tools. The purpose of the webinar is to educate people in writing articles, proposals, theses, dissertations, books, resumes, CVs, and other academic texts. It helps one to manage a document's structure and headings without getting lost in the text.

**Webinar on MS Word for Academic Writing**

Various National/International conferences and conclaves were also organised during the year 2019-2020 which gives platform to the external students, academicians and industry people to bridge the gap between academia and industry. These conferences have been organised by various departments on the regular basis thus provide the opportunity for the outsiders to get themselves updated with the latest trends.

University has signed Memorandum of understanding (MOU) with more than 150 international universities. In some of the MOU’s student exchange offers is available for the semester exchange program. Under this MOU the students from other international universities are coming to Lovely professional university and sharing the educational facilities of Lovely Professional University. Few students recently visited to Lovely professional university.

Students and faculty from Cardiff Metropolitan University, United Kingdom at LPU campus
With the outbreak of COVID-19, the education shifted to e-mode and in this situation LPU was one of the first educational campuses to start online teaching. Furthermore, LPU promptly took initiative for developing effective online contents which were not only available to LPU students but to the entire globe. Different platforms were used to upload the contents which can be easily assessed by anyone. The example of such a initiative was done for course named ‘Mechanical Tinkering Lab’ where, contents were developed and uploaded on you tube under the category ‘Experience it yourself’.

Snapshot of the channel developed by Mechanical Department on Mechanical Tinkering Lab

7. Executive Development Program

Lovely Professional University hosts events at campus those are open to general public. One of the initiatives of university is Corporate Pathshala under the aegis of Human Resource development Center which is committed to enhance professional and organizational competencies leading to business growth and development. CORPORATE PATHSHALA provides tailor made solutions to its clients. Corporate Pathshala has an experienced and vibrant team of corporate trainers engaged in diagnosing, designing, delivering and devising workable solutions for business development. The various modules of programs are Leadership Programs, Life Skills, Business Development Programs, Talent Management, Family Business Management, Technical Skills and Train the Trainer Program etc.

Workshop on Decision Making and Delegation Skills

The executives and managers of CLAAS India Pvt ltd actively participated in an experiential learning workshop conducted by Lovely Professional University. The capacity building program equipped the participants with new dimensions of business development, decision making and delegation skills.
Workshop on Stress Management

The workshop on stress management was conducted for faculty members of Shree Hanumant International Public School, Goraya. The participants were individually coached with respect to effective handling of stressful situations.

KSHITIJ-Strategic Execution and Coaching for Higher Performance

Managers of Midland Microfinn Ltd actively participated in the Management Development Program on Execution and Coaching for Higher Performance conducted by resource team of LPU. The program focused on effective selling skills and important aspects of management and leadership.

Workshop on Business Communication

Workshop on Business Communication was organized to develop business communication skills of the participants of Monte Carlo Ludhiana. It was designed to enhance the communication skills, understand the most successful strategies for appropriate communication to achieve their professional and personal goals.

FSSAI FOSTAC Training on Basic Food Manufacturing

LPU- HRDC organized Workshop on FSSAI FOSTAC Training on Basic Food Manufacturing for food vendors and handlers. The schedule carried a multi-pronged approach that included inputs through Audio visuals, group discussions, simulations, and demonstrations. Discussion pointers focused on

- Basic level: Food Safety Management System Planning
- Personal Grooming and Hygiene
- Importance of temperature in Food and Safe handling of Food.
Workshop on Advanced Selling Skills

Workshop on Business Communication aimed at developing business communication skills of the participants of Monte Carlo Ludhiana. It was designed to enhance the communication skills, understand the most successful strategies for appropriate communication to achieve their professional and personal goals. Workshop facilitators from Lovely professional University, patiently handled the queries of the participants. The participants were very appreciative of the resource persons’ expertise, teaching pedagogy and question handling.

Workshop on Involve to Evolve

A Corporate Training Program was organised for staff members of CLAAS India Pvt. Ltd. Morinda Ludhiana. It was crafted to meet the training needs of the clients. The workshop focused on enhancing the ability to work under pressure. The deliberations stimulated self-learning amongst the participants who actively participated in the program.

8. Guidelines And Framework

a. Division of Academic Affairs (DAA):

For catering curriculum framing and development, LPU has its division of Academic Affairs, which has two cells, i.e. Academic Planning Cell and Academic Information, Data Management and Analysis Cell.

The primary functions of DAA are to design formats, ensuring timelines for Curriculum Development and Review process. It provides an interface for access to online feedback analysis reports & past changes in curriculum, which includes program schemes and syllabi yearly. This process helps in objectively evaluating the proposals with suggestions from schools/departments with significant updates in the curriculum to make students industry-ready. DAA supports schools/departments to conduct Board of Studies meetings for curriculum revision as per the requirement of governing bodies and industry expectations.

b. Curriculum Development and Review (CDR) Workshops

The primary focus of the CDR Workshop is to review and design the curriculum that leads to the attainment of the course outcomes and getting students ready for a career in their respective domains. The workshop includes developing the Program Educational Objectives (PEOs), Program Objectives (POs), Program Specific Objectives (PSOs), Program Structure, and Program scheme in a way that the identified competencies/skills are developed in the graduates. The emphasis is also given to designing the Course Outcomes, Course Contents, Pedagogy & teaching strategies, Assessment & Evaluation of every course to help the students develop competencies and skills required. This workshop provides the platform to identify the placement pathways as outcomes of any program offered in the University.

c. LPU NSS library

The University has made many provisions for providing access to educational resources for outsiders, those not enrolled at the University. A vast array of educational resources has been provided through the LPU NSS library of the University. The LPU NSS library provides educational reading material to the general public. The reading materials span a broad spectrum of subjects, thus gathering knowledge in almost any domain of their choice. The library is open to the public from 9 am to 6 pm. In total, 4324 students outside the campus visited this library in 2019 to avail the facilities. Besides, the University also has its monthly newspaper and Magazine. Leading international, national and regional newspapers have been made available to the general public.
9. Campus Engagement Activities

LPU continuously hosts events that are open to the general public. The University regularly conducts various educational and social development events, such as IIC Innovation Ambassador Training Series, Financial Literacy Event 2020, First General Meeting of African Student’s Association, Yoga Session for LPU Bus drivers, YUVA2020 audition, an educational visit by some eminent experts like Dr Sudhir Kumar Mishra, Director General (BRAHMOS), CEO and MD, DRDO, Former General Officer Commanding-in-Chief of Western Command Lieutenant General (Retired) Kamal Jit Singh, PVSM, AVSM & Bar, Mr Shakoor Rather, Deputy News Editor, Press Trust of India (PTI), a largest news agency in India.

Former GOC-in-Chief of Western Command interacted with LPU Students

Weblink: https://happenings.lpu.in/former-goc-in-chief-western-command-in-lpu/

The Man behind India’s BrahMos Missile, Dr. Sudhir Mishra graced LPU Campus

Weblink: https://happenings.lpu.in/dg-brahmos-dr-sudhir-mishra-visited-lpu/

Another Enlightening Session with Mr. Shakoor Rather for LPU’s Budding Journalists
Weblink: https://happenings.lpu.in/mr-shakoor-rather-visited-lpu/

Training of Faculty Innovation Ambassadors concluded at LPU on Promising Notes
Weblink: https://happenings.lpu.in/training-of-faculty-innovation-ambassadors/
LPU organized Ten of International National Webinars

Weblink: https://happenings.lpu.in/lpu-organized-international-webinars/

LPU Students selected as Keynote Speakers at 10th Bharatiya Chhatra Sansad, New Delhi

Weblink: https://happenings.lpu.in/lpu-students-at-10th-bharatiya-chhatra-sansad/

Indian Start-up Summit 2020 at LPU

Weblink: https://happenings.lpu.in/indian-startup-summit-2020/

E-Parirakshak by LPU students for smart farming featured in India Today

Live Projects By LPU Students
Weblink: https://happenings.lpu.in/5-live-projects-by-lpu-students/

Multibillion Dollars Finance Giant- ‘NASDAQ’ selects LPU BTech Students as Software Interns
Weblink: http://bweducation.businessworld.in/article/LPU-B-Tech-Students-Complete-Internship-At-NASDAQ/29-09-2020-325983/

LPU Alumnus Helping LPU Students Amid The Covid-19 Lockdown
An entrepreneur by profession, Mr. Avinash is lending his helping hand to the students who have been stuck in areas nearby to LPU by providing them with different kinds of Daily Essentials
Weblink: https://happenings.lpu.in/lpu-alumnus-helping-amid-covid-19/

LPU organized Women Entrepreneurship Seminar under European Union Project
Weblink: https://happenings.lpu.in/women-entrepreneurship-seminar/
10. METRICS 2020

LPU continuously hosts events that are open to the general public. The University regularly conducts various educational and social development events, such as IIC Innovation Ambassador Training Series, Financial Literacy Event 2020, First General Meetin

- 26+ International Conferences
- 190+ Public Participation Events
- 4000+ access for public resources
- 100+ Educational Outreach activities beyond Campus
- 3400+ First Generation Students

11. FUTURE PLANS (2030)

a. Orchestrate workshops & training with relevant skills: By 2030, LPU is committed to provide equal opportunities for lifelong learning and quality education for the general public, including persons with disabilities, underprivileged children, to get access to vocational training and workshops. It will inculcate technical skills in them for a better future. LPU NSS unit is planning to conduct more than 5000 awareness campaigns in nearby villages and societies. Online sessions for the village, underprivileged students.

b. Access to LPU facility for general public: By 2030: LPU is planning to give access to library facility to 1 million people including students from nearby villages and cities. This will set a benchmark for attaining the sustainable development goal of quality education.

c. Research progress: A way forward to set a path for the lifelong learner: LPU as a University is setting its goal in research through its quality publications. The research in LPU is always to go forward in an interdisciplinary model, and its reflection is to be visible through its H-index of more than 200 with a cite score of 60,000 by 2030. The essence of research will be around societal development. Students in LPU trained through real-time exposure of practicals, projects and interpersonal skills to implement their gathered concepts and capabilities.

d. Increase the number of graduates with relevant skills for quality teaching: LPU nurture its graduates with required basic and advanced skills that prepare them to teach at the primary school level. Students in LPU are trained through real-time exposure, practical projects and interpersonal skills to implement their gathered concepts and capabilities, which is required to improve teaching skills for the primary level education.

e. The number of first-generation students: India is a country where the gross enrolment ratio (GER) was pretty low, even if in present times it has gone a little up. Still, there are families wherein the immediate family members either did not get the opportunity or did not have the resources to attend higher education. Looking to the dearth of options, LPU has created a benign scholarship framework so that people can come out and join higher education. In 2019, more than 4000 students got admission, which speaks about the commitment towards first-generation enrolment in higher education. In future, by 2030, enrolling more than 10k first generation students is being looked upon.

12. CONCLUSION

Lovely Professional University has set an agenda with its continuous efforts to achieve quality education and to provide equal opportunities not only for enrolled students but also for non-registered students. The efforts, including resource sharing, knowledge exchange, outreach activities, awareness drives, and skill-building to spread the culture of lifelong learning among the masses, are the university’s primary goals. LPU has policies for general public to access to Libraries, Laboratories, Museum, Auditorium, Agriculture fields and other resources. Policies of Lovely Professional University support and ensure the access of all the resources and activities regardless of the ethnicity, religion, disability, or gender.