
Report of Activities conducted by Teaching-Learning Center 2020-2021



St Joseph Engineering College

Vamanjoor, Mangaluru, Karnataka- 575028

Affiliated to VTU- Belagavi, Recognized by AICTE

NBA Accredited B.E(CSE, ECE, EEE , ME, CIV&MBA)

Name of the Institute:

St Joseph Engineering College
Vamanjoor, Mangaluru, Karnataka.
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Name and Status of the Teaching-Learning Center:

Teaching Learning Center (TLC) is named as SANJOSH which is independent center of our college.

Date of establishment of TLC: Teaching Learning Center was established on 8th April, 2019 in our Institution.

A Teaching Learning Centre (TLC) has been established to propagate new pedagogies of engagement and assist the faculty in OBE deployment. The TLC endeavors to promote flexibility when it comes to meeting learning objective. TLC aims at empowering teachers through training and retraining them in pedagogic skills, domain specific content up gradation, ICT enabled training, induction and orientation programme for newly joined faculty. TLC also helps in bridging the gap between academia and industry.

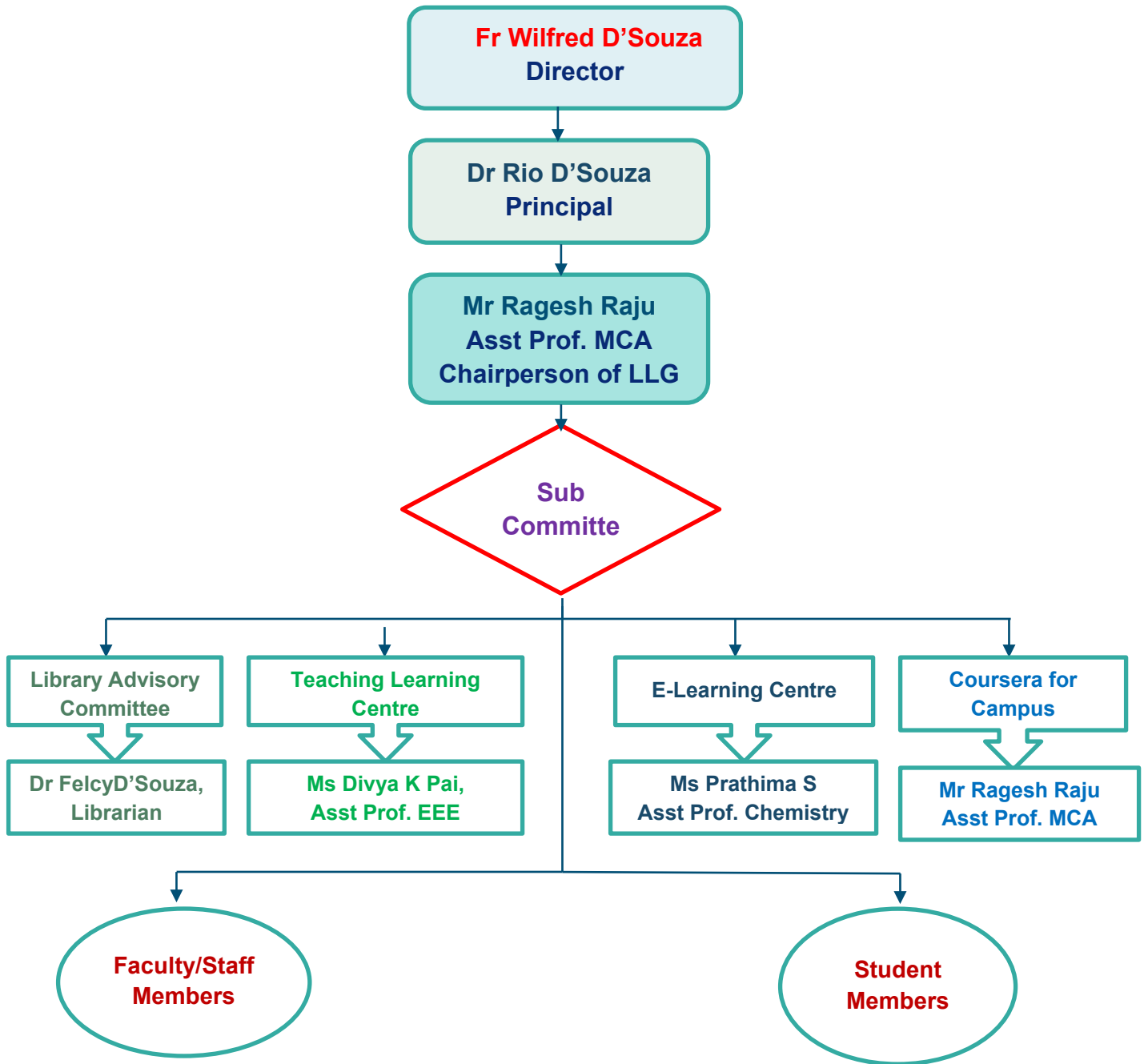
Mission Statement and Mandate of the Center.**Objectives:**

1. To strengthen new initiatives in pedagogy and facilitate sharing of best teaching to train faculty members through Faculty development programmes, conclaves, online courses and peer learning programmes.
2. To enable preparation of new and advancement of existing add-on courses and other units of curriculum.

The TLC aims to facilitate the following in line with the objectives stated:

1. Train faculty members on active learning, collaborative learning, experiential learning and other innovative in-class pedagogies that encourage OBE, student learning and learner centric classroom environments.
2. Provide adequate infrastructure for faculty members across disciplines to meet, share and reflect upon their in-class and online class experiences and reflections along with best teaching practices.
3. Improve collaboration of teachers across colleges and interaction with industry professionals to nourish program development and student learning.
4. Facilitate domain related training workshops/symposiums/conferences/sabbaticals that promote personal and professional development of faculty members.
5. Facilitate e-learning via online learning platforms and certification courses.
6. Organize induction and orientation programmes for newly joined faculty members to instate them into the system with ease.
7. Create new modules of learning for both teachers and students in line with the current demands of the industry.
8. Review and enhance existing modules of curriculum to bridge the gap between the academia and industry.

Organizational Structure of the center.



<ol style="list-style-type: none"> 1. Mr Prathviraj H, Asst Prof. Mech 2. Ms Avila Priya Pinto, AsstProf ECE 3. Mr Sachin U, Asst Prof. Civil 4. Ms Sneha Shetty R, Asst Prof. CSE 5. Ms Anusha S, AsstProf. CSE 6. Ms Pooja, Lab Instructor, Civil

<ol style="list-style-type: none"> 1. Ms Keerthi Rohith Gatty, ECE 2. Mr H Krishnan Embran, EEE 3. Ms Nisha Gowda, CSE 4. Mr Lanish Abhishek Pinto, 1st year

Training and Development Activities conducted in 2020-2021.

Faculty Conclave

St Joseph Engineering College (SJEC), Mangaluru, organized a 2 days Faculty Conclave on Teaching and Learning for the faculty members from 20 to 21 January 2020. This conclave aimed at empowering teachers with teaching skills in order to enhance the content delivery and bring in transformations in the teaching-learning process. The faculties presented various teaching methodologies and pedagogies implemented in their classrooms.

The programme started by invocation by Mr Akshay N H, Asst. Prof., Department of Mechanical Engineering, SJEC. The Conclave was inaugurated by the dignitaries Dr Prathiba Nagabhushan, Professor, Australian Catholic University, Chief Guest, Rev. Fr Rohith D'Costa, Director in-charge, St Joseph Engineering College, Mangaluru and President of the function, Dr. Rio D'Souza, Principal, St Joseph Engineering College, Rev. Fr Alwyn Richard D'Souza, Guest of Honour Mr Anoop C V, Teaching Learning Centre Coordinator, SJEC and Mr Keith R Fernandes, Faculty Conclave Coordinator.



Photo of Inaugural Function.

Dr Prathiba Nagabhushan, chief guest of the function addressed the gathering and expressed her happiness on the conduction of this conclave and congratulated the efforts of the Principal and Management of the college. She expressed her happiness to coordinate with college in future also. Rev. Fr Rohith D'Costa, spoke about the usefulness of this conclave to faculty members and expressed his happiness over the enthusiasm of faculty members in attending this programme and presenting papers. Mr Keith R Fernandes, Asst. Prof, Department of Electronics and Communication Engineering and Convenor of the program proposed the vote of thanks. He thanked the committee chairpersons Mr. Canute Sherwin, Asst. Prof., Department of Mechanical Engineering, Mr. Tyson D'Cunha,

Asst. Prof., Department of Computer Science and Engineering and Mr Jinu Mathew, Asst. Prof., Department of Mechanical Engineering and the team for their effort in coordinating the programme. A total of 29 papers were presented by faculty members of various departments.

Faculty Development Programme on Design Thinking and Social Entrepreneurship.

Day 1: 22-01-2020

Topic: Think Design

Resource person: Dr Rio D'Souza – Principal SJEC.

Ms Anusha M, Assistant Professor, CSE welcomed the gathering and introduced the speaker to the gathering.

Dr Rio D'Souza spoke about the different aspects of think design and interacted with faculty members about the importance of design thinking.



Photo of Dr Rio D'Souza interacting with the participants,

Day 1: 22-01-2020

Topic: Project Based Learning

Resource person: Dr Sandhya Das, Mr Vijay V S, and Ms Shama.

Resource persons shared about the experience they gained after attending a workshop which they attended on 22nd and 23rd November 2019 on “Regional Research Symposium on PBL” organized by Centre for Engineering Education Research, KLE Technological University, Hubballi. Mr Yathish Kumar K welcomed the Speakers and participants.



Photo of Dr Sandhya Das sharing her experience.

Day 2: 23-01-2020

Topic: Social Entrepreneurship

Resource person: Dr Harish Joshi- Professor, Manipal Institute of Management, Manipal.

Dr Joshi briefed about the concept of Social Entrepreneurship and its importance in present day. He covered the topics of Self Analysis, ABCD of Social Entrepreneurship, Success vs Failure, let's try these principles, Execution Plans and Conclusion.



Photo of Dr Joshi conducting the session.

Day 3 and 4: 24th & 25th Jan 2020

Topic: Design Thinking for Innovation

Resource Person: Mr Ashwath Narayana Shashtry.

Topics covered by the resource person in two days included Preparing for innovation, Design thinking, Design thinking: Tools and Techniques, Design thinking for innovation- Discovery phase, Definition phase, Creation phase, and Evaluation phase, Economics of implementation, Conclusion and Action items.



Photo of Mr Shashtry conducting the session.

Research Conclave

The research conclave was held from 27th -28th Jan 2020. The main objective of the Research Conclave was to provide an efficacious platform for learning and interacting with fellow researchers in our college. The Research Conclave aimed to provide an opportunity for researchers from various research philosophies and backgrounds to get together and promote the development of a collaborative research environment at SJEC which will lead to producing quality research publications.



Picture captured during the Research Conclave.

Faculty Development Programme on Critical Thinking and Social Innovation.

A Four day FDP on “Critical Thinking and Social Innovation” was organized by Sanjosh-TLC, SJEC for faculty members of SJEC during 27 – 30 January 2020. Mr Anoop C V and Mr Mahesha Y, Asst Professors, ECE Dept were the resource persons. Twenty Six faculty members from various departments participated in the sessions.

The FDP mainly focused on Design Thinking and its impact on social Innovation. It was stressed that by working closely with the clients and consumers, design thinking allows high-impact solutions to social problems to bubble up from below rather than being imposed from the top. Framing the problem statement based on the need statement given by the client was introduced to the participants. There are three spaces to keep in mind: inspiration, ideation, and implementation. Think of inspiration as the problem or opportunity that motivates the search for solutions; ideation as the process of generating, developing, and testing ideas; and implementation as the path that leads from the project stage into people’s lives.

An insight on Arduino was provided in the FDP which is an open-source hardware and software company, project and user community that designs and manufactures single-board microcontrollers and microcontroller kits for building digital devices. A mini project on line following bot was designed and developed using Arduino.

An insight on how to program and connect different elements to the arduino boards was introduced to the participants. An insight was given about the different types of sensors and their applications. Bibox and its application in the field of design and technology was also introduced.



Photo captured during the hands on session.

Six-day Faculty Development Program on “Curriculum Development Inspired by NEP-2020”.

Six-day Faculty Development Program on “Curriculum Development Inspired by NEP-2020” under Integra-2021 was organised from 8 to 10 April 2021 and 15 to 17 April 2021 for all the faculty members in Kalam Auditorium. The FDP was inaugurated on 8 April 2021 with Dr Rio D’Souza, Principal, SJEC, Mangaluru, as Chief Guest. Rev. Fr Rohith D’Costa and Rev. Fr Alwyn Richard D’Souza, Asst Directors, SJEC, Mangaluru were the Guests of Honour. The program was presided over by Rev. Fr Wilfred Prakash D’Souza, Director, SJEC, and Mangaluru. The Chief Guest and the President of the program addressed the gathering and briefed them about the importance and intentions of organizing this FDP

Day 1: 8 April 2021

After the inaugural function, the first session was handled by Dr Rio Dsouza, Principal of the Institution, on the topic “Review of the current status of SJEC-Autonomy syllabus”. Later, all the departmental heads presented their action plan and curriculum from NEP-2020 and Autonomy perspective. Mr Sharad M Marathe, President and CEO, Universal Technical Systems, Inc. of the USA, addressed the participants on the topic “Industry Collaboration for Curriculum Development” in the afternoon session. The speaker elaborated on the importance of considering the

industry collaboration in developing the curriculum and delivering the contents effectively. The session was very interactive, and all participants actively took part in the discussion.

Day 2: 9 April 2021

There were two parallel sessions on the second day, one at Kalam Auditorium and the other at Prerana Conference hall. Mr Sharad M Marathe, President and CEO, Universal Technical Systems, Inc. of the USA, had elaborated interaction with more than 25 industry representatives to comprehend and compile the expectation of industry in autonomy and NEP-2020 curriculum development. Later in the afternoon session, Mr Sharad M Marathe had interaction with traditional industry representatives to explore the possibility of SJEC involvement in reinforcing the conventional industries. More than 20 conventional industry representatives took part in the discussion. Moreover, the representatives were briefed about the SFURTI (Regeneration of Traditional Industries) scheme of the Ministry of MSME to promote Cluster development. Mr Sharad M Marathe and Dr Rio D'Souza had a detailed discussion with the traditional industry representatives to apply for such a cluster through SJEC.

In another parallel session, in Prerana Hall, Dr Prakash Pinto, Dean-MBA, SJEC Mangaluru, discussed the topic "School Education in NEP-2020". In this session, the speaker spoke about the status of school education and reforms proposed in NEP-2020.

Later, Dr Sudheer M, HOD-ME, SJEC Mangaluru, delineated "Higher Education in NEP-2020". His focus was on the amendments in Higher education as per NEP-2020 and its advantages to students.

Dr Vincent Crasta, HOD-Physics, SJEC Mangaluru, conducted a session on "Other Key Areas of Focus in NEP-2020". The discussion was concentrated on the additional changes and holistic student development objectives of NEP-2020.

The morning session was concluded by Dr Shreeranga Bhat, Coordinator-IQAC, SJEC Mangaluru, on the topic "Optimal Learning Environments and Support for Students Motivated, Energized, and Capable Faculty". The speaker concentrated on the learning ecosystem that faculty members must provide to students for effective teaching-learning practice as per the NEP-2020 context.

The afternoon session in the Prerana conference hall was handled by Mr Keith Fernandes, Faculty-ECE, SJEC Mangaluru, on "Equity and Inclusion in Higher Education Teacher Education". In the session, the participants were made aware of NEP-2020 aims to ensure equity and inclusion through education.

Later, Dr Dayakshini, HOD-ECE, SJEC Mangaluru, spoke about "Quality academic research through a new National Research Foundation". The speaker provided awareness about the opportunities available for R&D activities in NEP-2020.

The last session was conducted by Dr Yajneswaran, HOD-Civil, SJEC Mangaluru, at 4:00 PM on "Transforming the Regulatory System of Higher Education". He informed that NEP-2020 had proposed the separation of functions of regulation, accreditation, funding, and academic standard setting & establishment of the Higher Education Commission of India to regulate Higher Education Institutions.

Day 3: 10 April 2021

The third-day morning session was from Tinkering and Engineering Exploration Team, SJEC, Mangaluru on "Experiential Learning". This session made participants aware of how the teaching-learning process can be made more experimental. The session had some hands-on exercises for identifying and chalking out a road map to implement experiential learning for the students.

In the afternoon session, Dr Ramanada H S, HOD-Math, SJEC Mangaluru, provided hands-on experience on "Data Analysis and Interpretation Tools". Day three was concluded by an online session by Dr Ganagadharan,

Prof-Mech, NITK Surathkal, on the topic “Remote Triggering of Laboratory Experiments”. Speaker made aware to the participants how simple experiments in the laboratory can be conducted remotely.

Day 4: 15 April 2021

The fourth day of the FDP was on the topic “Plugging in Elements of Entrepreneurship into the Curriculum” by Mr Vasant Marathe, Entrepreneur and Researcher, Nashik. The session was in online mode, which dwelled on the topic “Intrapreneurship – Road to institutional success”. Later, a “Brainstorming Session on Remote Triggered Lab Implementation” was conducted by Dr. Binu K G and Team, SJEC, Mangaluru. The session was more of a group discussion and activity-oriented. Faculty members were organized as per their department and were asked to make a list of experiments available in their department that can be remotely operated.

The afternoon session handled by Dr Rio D’Souza, Principal, SJEC, Mangaluru, on the topic “Leveraging Autonomy for Professional Success”. The speaker made aware of the participants’ duties and responsibilities once the Institution is elevated to the Autonomous Status.

Day 5: 16 April 2021

The fifth day of the FDP was conducted in online mode by Dr. Richa Mishra, Head-Humanities, Institute of Technology, Nirma University, on “Critical Thinking”. The speaker explained the Critical Thinking process and its benefits in skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating gathered information.

The afternoon session, in online mode, was conducted by Dr. Deepak Waikar, Managing Partner, Edu Energy Consultants LLP, Singapore, on the “Holistic Approach towards Multi-disciplinary Education”. The heterogeneous teams were formed based on the specialization of faculty members to get multi-disciplinary ideas for curriculum development. Further, the activities were conducted to prepare charts and present the same during the session from a multi-disciplinary approach.

Day 6: 17 April 2021

The morning session was conducted online on the topic “Design Thinking” by Dr Richa Mishra, Head-Humanities, Institute of Technology, Nirma University. In this session, participants were grouped to prepare charts and present them to the audience. The charts was prepared on the theme ‘Dinner Plate’ which made group members think creatively and innovative designs to teach Design Thinking among the students.

Dr Rio D’Souza conducted the culmination session of the FDP along with Dr Shreeranga Bhat, on the topic “Planning for the curriculum development”. The session consisted of activities where participants were asked to analyze the Pos of their department based on the Competency and Performance Index proposed by the AICTE. In the valedictory session, Dr Shreeranga Bhat delivered the vote of thanks to all the people directly or indirectly involved in organizing this FDP.

Workshop on Project Planning and Scheduling.

An online workshop (through Zoom platform) on Project Planning and Scheduling was jointly organized from 19th August 2021 to 1st September 2021 (6.30 pm – 8.00 pm). The objective of the workshop was to understand the development of a project, to identify the key phases of project development, and to plan project scheduling and its communication. The resource person was Mr Jayant D Sathe, Former Project & Construction Manager, P & G Company, U.S. The workshop consisted of a total of three sessions of 1.5 hrs each was spread over 3 weeks. The participants were mainly SJEC faculty and final year students. Dr Rio Dsouza, Principal SJEC, Dr Prakash Pinto, Dean MBA, and Dr Yajneswaran, HOD Civil Engineering were the chief advisors for the workshop. Dr Vinish P, Assistant Professor, MBA Department, and Mr Ajeeth B, Assistant Professor, Civil Department were the convenors of the workshop.

Orientation Program for New Faculty.

The new Faculty orientation was organized on 27 August & 1 September 2021 from 2:00 pm to 5:00 pm at Sophia Chamber.

The first session on Overview of OBE, Necessity for adaption, Concept of OBE, Learning Styles and Active Learning Strategies was conducted by our beloved Principal Dr Rio Dsouza.

The next session was on IT awareness at SJEC was delivered by Mr Ragesh Raju, Assistant Professor, MCA.

The session on Library Orientation was conducted by

Dr Felcy Dsouza, Librarian. The session on PEOs, PO's, PSO's, and Bloom's Taxonomy was delivered by Dr Shreeranga Bhat, Head Quality Assurance.

The session on Cos, CO-PO Mapping, and Program articulation matrix was conducted by Mr Swaraj Lewis, Assistant Professor, and Department of Mechanical Engineering.

The session on CO and PO Assessment was conducted by Dr Sharun Mendonca, Assistant Professor, and Department of Mechanical Engineering. There were 25 participants and all participants took part positively in the orientation. The participants have appreciated the knowledge gained during the FDP.



Photo of orientation programme.

Five-Days Faculty Development Program (FDP) on NEP 2020 Implementation at Engineering Institutions



Photo captured during FDP.

Five-Days Faculty Development Program (FDP) on NEP 2020 Implementation at Engineering Institutions was conducted for the SJEC faculty on 30 & 31 Aug, 02 & 03 & 06 Sept 2021.

Dr. Prakash Pinto, Dean MBA was the resource person for the first session on Quality Universities and Colleges: A New and Forward-looking Vision for India's Higher Education System. The session focused on higher education system in a India Categorization of Universities based on Function, Vision of NEP 2020 and challenges ahead.

Dr Sudheer M – Dean (R&D), was the resource person for the second session on day 1 which was on the topic "Research Innovation and Ranking". The session focused on best practices on foreign universities approach to energise the research environment, National Research Foundation (NRF) ranking and IPR.

Dr Ramananda H S –Dean (Student Welfare), was the resource person for the first session on day2 which was on the topic” Optimal Learning Environments & Support for Students” The session focused on Components of an effective learning environment, Curriculum and pedagogy, different active learning methods. He also discussed on Curriculum Pedagogy Assessment, Mentoring and counseling, Career counseling, Internationalization Support for SEDG, students, Credits for Music, language, sports, culture.

Dr Shreeranga Bhat was the resource person for the second session on day2 which was on the topic” Motivated, Energized, and Capable Faculty” The session focused on Physical infrastructure and service conditions, Institutional autonomy for recruitment, Empowering and motivating institutional culture, Career and compensation management of faculty and other employees.

Dr Rajesh P C- Head of Department of Physics was the resource person for the first session on day3 which was on the topic” Teacher Education”

The session focused on Early Childhood Care and Education (ECCE), The Foundation of Learning, Uniform standards for teacher education, National Mission for Mentoring, Teacher Recruitment and Deployment, Continuous Professional Development(CPD), Professional Standards for Teachers.

Dr. Sridevi Saralaya-Head of CSE was the resource person for the second session on day3 which was on the topic” Re-imagining Vocational Education ” the session focused on Vocational Training- Current Scenario, Vocational Education Implementation Hurdles, Statistics to figure out the difference across education streams. She also discussed on Proposed Model for VET in our HEI.

Dr Binu K G –Mechanical Engineering was the resource person for the First session on day4 which was on the topic” Towards a More Holistic & Multidisciplinary Education “The session focused on Holistic Education, Emotional – Social Skills, Need for multidisciplinary education.

Dr Vincent Crasta-Dean(Academics) was the resource person for the second session on day4 which was on the topic “Effective Leadership & Governance” The session focused on Qualities of a Good Leader, Need and role of Academic leaders in Framing and Implementing the curriculum, self-governing Institutions.

Mr Sathyendra Bhat & Mr Ragesh Raju-MCA were the resource persons for the First and second session on day 5 which was on the topic Use of Technology & Integration qualities of MOOCs. The session focused on Benefits of MOOCs to participants, Benefits to organizations running the MOOC, Business models associated with MOOCs

Faculty Development Program on Problem Based Learning.



Photos captured during the session.

The five-day Faculty Development Program on Problem Based Learning was organized jointly by the Library & Learning Group and Development & Planning Group from 13 to 17 September 2021. The FDP was delivered by Dr Vikas Shinde, Director – PBLCOE at Vishwaniketan, iMEET, Khalapur. The FDP commenced with a detailed discussion on the Principles of PBL in an activity based ambience. Dr Shinde facilitated extensive discussions on

characteristics of a Problem and thenuances of developing appropriate problems for UG students. Dr Shinde also brought in fellow proponents of PBL. Mrs Charusheela Pandit and Mr ChinmayRohekar to speak about the success stories at Vishwaniketan and provided examples of thePBL models. The work at Vishwaniketan was truly inspiring and is a source of motivation for all participants to implement PBL at SJEC. The assessments and rubric design for PBL was then discussed in detail. Faculty were taken through the process of developing rubrics for team work and PBL in general. The FDP concluded with a session on sustaining the PBL model, where Dr Shinde gave insights into the process of implementing PBL at SJEC.

Academic Support Activities conducted in 2020-2021.

CORNEA 2020: Five Days Hands on Workshop on Online Teaching Tools and Virtual Labs.

When pandemic came and obstructed the flow of even semester 2020, we had no other go but switch to online mode of instruction. In order to help SJEC faculty to tackle the common concerns in online mode of instruction as listed above, “SANJOSH” the Teaching-Learning Centre of St Joseph Engineering College conducted CORNEA 2020 - hands on workshop series on Online Teaching and Learning Tools and Virtual Labs,from 21 to 30 October, 2020. Effective use of the tools namely Google Classroom, Canvas, Google Meet, Edpuzzle, Quizizz, Kahoot, Mentimeter and GeoGebra in online instruction was discussed inhands on mode. Mr Keith R F, Mr Ragesh Raju, Dr Ramananda H S, Mr Anoop C V and Mr Maheshacontributed as resource persons.

During this tough time, the Online Teaching Learning Team(Presently EdTech Team) of SJEC could reach out to nearby schools and colleges and conduct training sessions on various aspects of Online Teaching. Believe it or not, 32 faculty from SJEC could train around 700 teachers of 17 nearby schools and colleges. Mr Keith R F and Mr Ragesh Raju lead the team from the front.

Information about the Teaching Learning Practices undertaken for effective learning in the institution during 2020-21.

MELODIUM-SJEC Studio, was inaugurated on November 9th 2021. This studio allows the college to be at the forefront of online education activities that include the development of well-rounded MOOCs among others. The studio also help to unleash the creativity in students through music recordings, podcasts, video blogs and other artistic endeavours.

The IDEA Lab is aimed at encouraging students to apply Science, Technology, Engineering and Mathematics (STEM) fundamentals towards enhanced hands-on experience, learning by doing and product visualization. The IDEA Lab will make engineering students more imaginative and creative in addition to imbibing skills of critical thinking, problem-solving, design thinking, collaboration, communication and lifelong learning.

SJEC has Tinkering and Engineering Exploration Labs, NAIN Innovation Centre and AICTE IDEA Labs on the campus which provides an eco-system to convert ideas into proof-of-concept and upgrade them to the level of a product with commercial value.

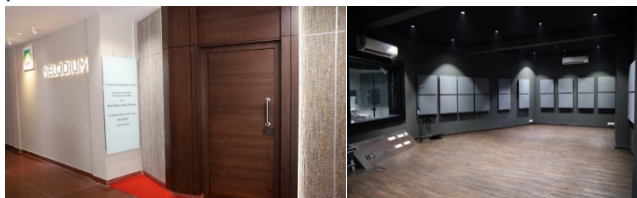


Photo of MELODIUM-SJEC Studio.



Photo of SJEC AICTE IDEA Lab

A virtual e-book on CAD was designed successfully under the guidance of Mr.Sharadhe M Marathe and Dr.Rio D'souza by a team of faculty members from Mechanical Engineering department Similar project is under progress for other departments.

A space for teaching learning center is getting ready at SJEC,where in teachers of all departments would meet regularly to exchange the best practices of teaching learning process followed in the department.