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## TWO WEEK ISTE WORKSHOP ON CONTROL SYSTEMS, IIT KHARAGPUR

The Department of Electrical & Electronics Engineering, in association with IIT Kharagpur organized a two week (ISTE) workshop on Control Systems from December 2 to 12, 2014. Around 32 faculty members from various colleges attended the same. IIT Kharagpur and Sree Buddha College of Engineering, Pattoor collaborates to enhance the teaching skills of their faculties in core Engineering and Science subjects. The lecture transmission and live interaction took place in distant mode using the AVIEW technology through internet, at Sree Buddha College of Engineering, Pattoor (RCID 1302). This initiative was a part of the 'National Mission on Education through ICT' which was supported and funded by MHRD, Govt. of India.

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# SREE BUDDHA COLLEGE OF ENGINEERING, PATTOOR DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING TWO DAY WORKSHOP

ON

## "INTRODUCTION TO ANTENNA DESIGN AND SIMULATION USING CST MICROWAVE STUDIO"DURING 12<sup>TH</sup> AND 13<sup>TH</sup> OF AUGUST 2015

A two day workshop on "Introduction to Antenna Design and Simulation using CST Microwave Studio" during 12<sup>th</sup> and 13<sup>th</sup> of August 2015 was organized by the Department of Electronics and Communication Engineering at Sree Buddha College of Engineering, Pattoor.

Organizing Committee of this workshop

Chief Coordinator:

Dr. S. Suresh Babu Principal.

General Convener:

Prof. Ambika Sekhar Head of the Department of ECE.

Organizing Secretaries:

Prof. Sabi S.

Prof. Manjusree S. Dept . of ECE.

**Technical Coordinator:** 

Mr. Mahesh A.

The Inaugural function of this workshop was held on 12 <sup>th</sup> August 2015 in the System lab of ECE Department at 9.30 a.m. The Principal and the chief Coordinator of the workshop Dr. S. Suresh Babu presided over the function. Mr. Pramod, PG Scholar from TKM College of Engineering, Kollam was the chief guest of the function. Prof.Ambika Sekhar, Head of Electronics and Communication Engineering Department welcomed the gathering. Mr. Pramod, PG Scholar gave an overview of the workshop and Ms.S.Manjusree, Assistant Professor presented the vote of thanks.

The scope of this workshop is to give an overview and hands-on experience to the participants on the electromagnetic simulation software CST STUDIO SUITE. It comprises CST's tools for the design and optimization of devices operating on a wide range of frequencies-static to optical. The key focus of this workshop is the hands-on training on CST software in simulating various antenna structures. The workshop was conducted in five sessions.

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# SREE BUDDHA COLLEGE OF ENGINEERING, PATTOOR DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING TWO DAY WORKSHOP

ON

### "INTEGRATED DEVELOPMENT ENVIRONMENT FOR PIC DESIGN FLOW USING PROTEUS" DURING SEPTEMBER 29TH & $30^{TH}$ , 2015

A two day workshop on "Integrated Development Environment for PIC design flow using Proteus" during September 29th & 30<sup>th</sup>, 2015 was organized by the Department of Electronics and Communication Engineering at Sree Buddha College of Engineering, Pattoor.

#### Organizing Committee of this workshop

Chief Coordinator:

Dr. S. Suresh Babu Principal.

General Convener:

Prof. Ambika Sekhar Head of the Department of ECE.

Organizing Secretary:

Prof. Arya Lekshmi. Dept. of ECE.

Technical Coordinator:

Mr. Mahesh A.

The inaugural function of this workshop was held on 29 <sup>th</sup> September 2015 in the System lab of ECE Department at 10.00 a.m. Ms. Ambika Sekhar, Head of Electronics and Communication Engineering Department presided over the function. Mr Mahesh.A, technical co-coordinator, gave an overview of the workshop and Ms. Arya Lekshmi .M, Assistant Professor presented the vote of thanks.

The workshop was an endeavor to give an overview and hands-on experience to the participants on general practicing on Proteus IDE and Proteus for firmware development PIC. The workshop was conducted in five sessions.

#### The following topics were covered in the workshop

- Introduction to Proteus design suite
- Circuit design concepts
- PCB Layout design
- Introduction to PIC 16F458 controller
- Programming concepts: Embedded C, assembly language
- Hands on sessions for different interfacing experiments

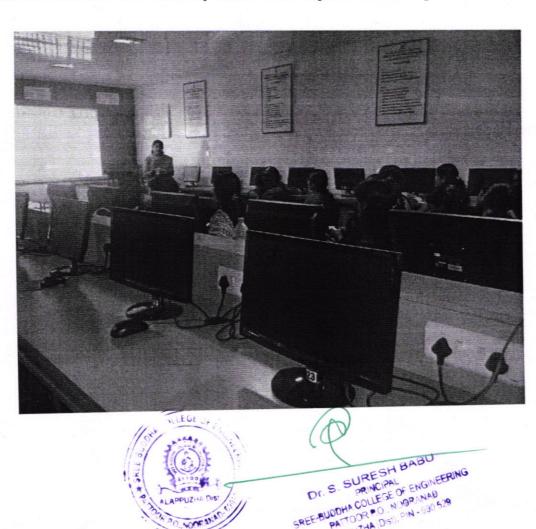
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On the first day of workshop Ms. Arya Lekshmi gave an introduction to Proteus Design Suite and explained various features of Proteus and also gave hands on session on 'How to make a PCB layout using Proteus design flow'. The session was ended at 1.15 p.m.

Afternoon session was handled by Mr. Mahesh A; He had given an introduction to the programming concepts in Embedded C and in assembly language.

The workshop session for 30<sup>th</sup> September was started at 9:30am at the same venue. In the second day, the session was handled by Mr. Mahesh A. He introduced Micro C IDE for PIC microcontroller and gave hands on sessions on seven segment display interfacing, LCD interfacing and ADC interfacing.

Twenty six academicians including faculty and PG Students were participated in the workshop. About 14 faculty members of ECE department of SBCE participated actively and had an excellent learning experience with hands-on training. PG students of ECE department attended the training program and had shown great interest. After the session the participant's feedback were collected. The workshop ended on 30<sup>th</sup> September at 4.00 p.m.



# SREE BUDDHA COLLEGE OF ENGINEERING, PATTOOR DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING REPORT ON TWO DAY WORKSHOP ON

#### "SERVICE AND MAINTENANCE OF MICROCONTROLLER/ MICROPROCESSOR KITS"

A two day workshop on "Service and Maintenance of Microcontroller/ Microprocessor Kits" during 13<sup>th</sup> and 14<sup>th</sup> of October 2015 was organized by the Department of Electronics and Communication Engineering at Sree Buddha College of Engineering, Pattoor.

#### Organizing Committee of this workshop

Chief Coordinator:

Dr. S. Suresh Babu, Principal.

General Convener:

Prof. Ambika Sekhar, Head of the Department of ECE.

Organizing Secretaries:

Prof. Saritha N R., Dept. Of ECE.

Technical Coordinator:

Mr. Mahesh A.

The Inaugural function of this workshop was held on 13 <sup>th</sup> October 2015 in the System lab of ECE Department at 9.30 a.m. The HOD and the general convener of the workshop Prof. Ambika Sekhar presided over the function. Mr. Subbiah, Mr. Jagan S Service Engineer from Vi Micro Systems Pvt Ltd, Chennai was the chief guest of the function. Prof.Ambika Sekhar, Head of Electronics and Communication Engineering Department welcomed the gathering. Mr. Subbiah gave an overview of the workshop and Ms.Saritha.NR, Assistant Professor presented the vote of thanks.

The scope of this workshop is to give an overview and hands-on experience to the participants on service and maintenance of microcontroller / microprocessor kits. It comprises introduction to microprocessor / microcontroller and an overview about programming in microprocessor /microcontrollers. The key focus of this workshop is the hands-on training on service and maintenance of microprocessor/microcontroller kits. The workshop was conducted in

Dr. S. SURESH BABU

five sessions.

- The following topics were covered in the workshop
- Introduction to microprocessor/microcontrollers
- Programming in microprocessor/microcontrollers
- Service and maintenance of microprocessor/microcontrollers kits
- Programming Examples

**Practical Session** 

On the first day of workshop Expert member Mr. S.Subbiah gave a brief overview on the topic microprocessor/microcontrollers. The session was wound up at 4pm.

The workshop session for 14<sup>th</sup> October was started at 9:30am at the same venue. In the second day also the session presented by Mr.Jagan S. He explained the service and maintenance techniques. All the details regarding maintaince also explained.

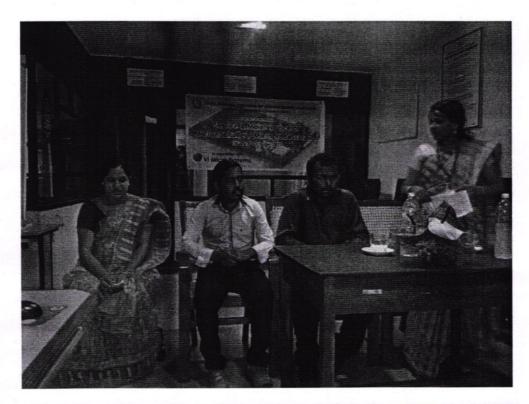
Twelve participants including three external participants from.UKF college of engg and technology Kollam and VIDYA academy for science and technology Thrissur and on were participated in the workshop. About 9 technical staffs from ECE,EEE,CSE department of SBCE participated actively and had an excellent learning experience with hands-on training. After the session the participant's feedback were collected.

The workshop ended with valedictory function on 14th of October 2015 at 3.30 p.m.

Prof. Ambika Sekhar, Head of ECE Department presided over the function and distributed the certificates to the participants and a memento was awarded to Mr. Subbiah and to Mr. Jagan.S., Ms. Bindhu L ,Mr James KR of SBCE expressed their valuable comments and thanks to VI microsystems for this Workshop. Mr. Mahesh, Technical co-ordinator, presented the vote of thanks.

We express our sincere thanks to Mr. Mr. Subbiah, Mr. Jagan S Service Engineer from Vi Micro Systems Pvt Ltd, Chennai who have accepted our invitation and given excellent presentation and interactions to the participants.

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#### Poster presentation on innovative project ideas

#### FACULTY DEVELOPMENT PROGRAMME ON

#### TOTAL STATION SURVEYING

A one day faculty development programme 'Advanced surveying using total station' was conducted on 24<sup>th</sup> July 2016 to train the faculty in Total station surveying. Ritzy R, Assistant Professor, Dept of civil was the resource person and trainer of the program. Inaugural session started by 9.00 am. Dr. E. V. Nampoothiri, U.G Dean delivered welcome speech The target group was faculty and lab staff of civil department. The participants gained practical experience in the key learning areas including basic key operations, recording data, distance measurement, angle measurement, coordinate measurement, surface area and traversing, data transfer, data interpretation and data plotting using total station.



# NATIONAL LEVEL WORKSHOP ON "EMERGING TRENDS IN SPECIAL ELECTRICAL MACHINES"

A, three day, national level workshop on "Emerging trends in Special Electrical Machines" was conducted by the Dept. of Electrical & Electronics Engineering of Sree Buddha College of Engineering (SBCE), Pattoor from 23<sup>rd</sup> to 25<sup>th</sup> November 2016 in the college campus for the Post Graduate (PG) students and faculties of the Dept. of Electrical & Electronics Engineering (EEE) of SBCE as well as other colleges in Kerala. The inaugural ceremony was performed on 23-11-2016 by the chief guest of the day - Dr. Mini, Associate Professor, College of Engineering Trivandrum (CET), in the presence of Dr. Suresh Babu, Principal - SBCE, Mr. K. K. Sivadasan, Treasurer, Dr. Benny Thomas, HOD - EEE, SBCE, Dr. Bhass, PG dean and Dr. Mithun M. S., the Workshop Coordinator, by lighting the lamp. The workshop was intended to develop awareness among PG students, researchers and faculties regarding the significance of Special Electrical Machines (SEM) in today's world owing to their much better performance features and lesser energy consumption than the conventional rotating machines that are currently used. It was attended by over 40 participants from within the college and outside. The invited talks in the workshop highlighted the latest designs of SEM available in the market, their control algorithms and some special applications of these machines. It also had hands-on sessions conducted by VI Microsystems, Chennai, for its participants. The key-note speakers of each day were from reputed institutions within in India; on the first day, the forenoon lecture was conducted by Dr. Mini of CET, who explained the design and analysis of a Surface Mounted Permanent Magnet Vernier Motor for robotic applications. Later in the afternoon, Dr. Vijayarajeswaran, MD, VI Microsystems, presented an overview of the various controllers used for controlling these SEM. On the 2<sup>nd</sup> day, Dr. Jiji from Government Engineering College Thrissur (GECT) demonstrated the design and control of a Permanent Magnet Synchronous Machine (PMSM) using Maxwell - Simplorer software. The key-note speakers for the third day were Sri. AnishGopinath, Scientist - Avionics Group, VSSC Thiruvananthapuram and Sri. Kedarnath, Senior Research Fellow, IIT Madras. Sri. Anish Gopinath explained how a BLDC motor can be used for electro-mechanical actuation control systems for aerospace applications, while Sri. Kedarnath presented the latest developments in sensor less control of PMSMs. The workshop finally concluded on 25-11-2016 evening, after a closing ceremony convened by Dr. Mithun, workshop coordinator.

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**Inauguration ceremony** 



Keynote lecture by Dr. Mini



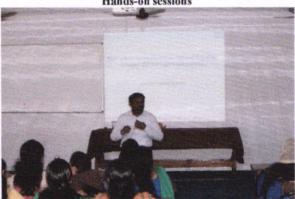
Keynote lecture by Dr. Vijayarajeshwaran



Hands-on sessions



Keynote lecture by Dr. Jiji



Keynote lecture by Sri. AnishGopinath



Participants of the workshop along with Sri, AnishGopinath and Sri. Kedarnath

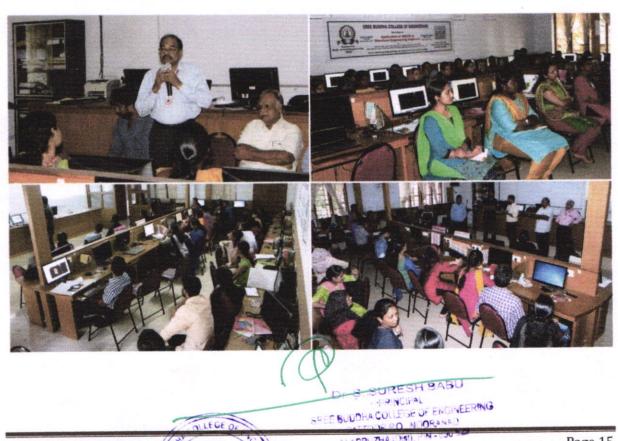


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#### ADVANCED WORKSHOP ON

#### "APPLICATIONS OF ANSYS IN STRUCTURAL ENGINEERING PROBLEMS"

Workshop on "Applications of ANSYS in Structural Engineering Problems" was organized jointly by Department of Civil Engineering and Indian Concrete Institute Student Chapter, Sree Buddha College of Engineering, Pattoor during November - December, 2016. The workshop involved hands-on training on ANSYS software; a world renowned and widely accepted Finite Element Analysis package and comprised of two day basic level training conducted from 8th to 9th of November 2016 in which 51 M.Tech students participated and advanced workshop conducted from 19th to 21st of December 2016 in which 30 aspirants participated including 23 external participants from various engineering colleges in Kerala.



**ACTIVITY REPORT** 

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# ISTE WORKSHOP ONELECTRIC POWER SYSTEMS CONDUCTED BY IIT KHARAGPUR (NMEICT, MHRD PROJECT) AT SREE BUDDHA COLLEGE OF ENGINEERING, PATTOOR (REMOTE CENTRE ID: 1302) 10<sup>TH</sup> JULY 2017 – 15<sup>TH</sup> JULY 2017

Electrical Power System is a core course for any undergraduate programme in Electrical Engineering. It is expected to be the first course on this topic and is typically meant for participants who already have some introductory knowledge of Electric Circuits, Electric Machines and Control Systems. The course covered the basic foundations of Power System Analysis, which is used to assess effective Electric Power Delivery in practice. Need for renewable energy resources were also brought out during the course. Participants were exposed to usefulness of employing ICT in developing smart grids. Through this course each participant is able to learn and identify as to what comprises an Electric Power System, examine its inherent complexity and explore different ways to develop an algorithmic solution by analyzing the various alternatives and to finally develop a good practical solution that is supported by logical and theoretical justification. An important initiative was taken by IIT Bombay and IIT Kharagpur to work with Engineering Colleges of India to enhance the teaching skills of our faculty colleagues in core Engineering and Science subjects under Train Ten Thousand Teachers programme.

IIT Kharagpur conducted the ISTE Short Term Training Program for Faculties on "Electric Power System" from July 10, 2017 to July 15, 2017 under Blended MOOCs (Massive Open Online Courses) at Sree Buddha College of Engineering, Pattoor(RCID 1302). ISTE STTP is funded by the National Mission on Education through ICT (MHRD, Government of India). Teachers who participated in this program attended the tutorial and lab sessions conducted in the remote centres. The lecture transmission and live interaction took place in distance mode using A-VIEW technology through internet at the selected remote centers across the country. This initiative is a part of the 'National Mission on Education through ICT,' which is supported by MHRD. Live recording of the course and other created contents was released under Open Source through a portal. The recorded CD/DVD of the course lectures were available for distribution, at cost, to any individual or institution. Overall 35 Participants registered for the Workshop out of which 18 were outstation participants, and all attended regularly. The Program had Quiz sessions, nearly 4 Assignments and it concluded with a photo session with the principal of the institute Dr. S Suresh Babu on July 15.

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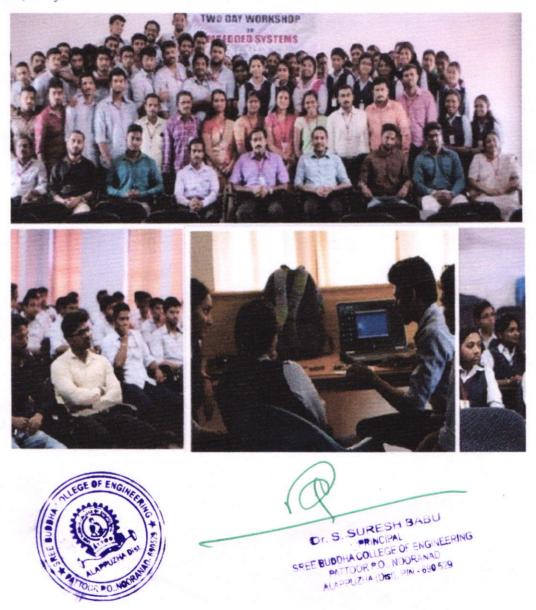


Participants with the Principal Dr. S Suresh Babu (bottom extreme centre)



#### TWO DAY WORKSHOP ON 'EMBEDDED SYSTEMS'

A Two Day Workshop on 'Embedded Systems' was conducted by the association of Electrical & Electronics Engineering (EEE) Dept. of Sree Buddha College of Engineering, Pattoor on 26th & 27th October 2017 for faculty, UG and PG students, in association with MATT Engineering Equipment, Nagercoil, Kanyakumari.



### FOUNDATION PROGRAM IN ICT FOR EDUCATION ON 08TH MARCH 2018 TO 12TH APRIL 2018



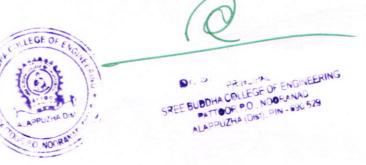
IIT Bombay conducted a Two-Week AICTE approved FDP for college Faculties on "Foundation Program in ICT for Education" from under Blended MOOCs (Massive Open Online Courses) at Sree Buddha College of Engineering, Pattoor (Remote Center of IIT Bombay, RCID 1302).



### PEDAGOGY FOR ONLINE AND BLENDED TEACHING-LEARNING PROCESS [3<sup>rd</sup> MAY 2018 TO 30<sup>th</sup> MAY 2018]



IIT Bombay conducted a Two-Week AICTE approved FDP for college Faculties on "Pedagogy for Online and Blended Teaching-Learning Process" from 3rd May 2018 to 30th May 2018 under Blended MOOCs (Massive Open Online Courses) at Sree Buddha College of Engineering, Pattoor (Remote Center of IIT Bombay, RCID 1302). This FDP is conducted under the PanditMadan Mohan Malaviya National Mission on Teachers and Training.





#### SHORT TERM TRAINING PROGRAMME ON

## 'ADVANCES IN DESIGN, CONSTRUCTION AND REHABILITATION OF CONCRETE STRUCTURES' held from May 21- 26<sup>th</sup> 2018

A six day short term training programme was organized by Department of Civil Engineering, from 21-26<sup>th</sup> May 2018. The training program aimed at knowledge enhancement in the field of concrete structures for Faculty Members, Research scholars and PG students of Civil Engineering Stream from all Engineering Colleges. Professor Dr. Gouri Antherjanam and Ms. Regi P. Mohan, Assistant Professor were the course coordinators. It mainly focused on Analysis and Design of Concrete Structures, Bridge construction, Construction challenges & Solutions, Durability of Concrete Structures, Sesismic design of RCC structures, Structural Health Monitoring and Retrofitting of existing RC structures etc. Eminent professors from National Institute of Technology Calicut and other state of the art institutions led the classes. The training programme was inaugurated on 21/5/2018 by Dr. N. Ganesan, Professor, National Institute of Technology Calicut, Chairman Prof. K. Sasikumar, Principal Dr. S. Suresh Babu, Treasurer Shri K. K. Sivadasan, Department Head Dr E.K. Bhass, other department HODs, Course Coordinators, faculties, P.G.scholars and external participants were present.

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Dr. N. Ganesan took class on 'Investigation of distress in RCC structures using NDT methods' after the inauguration. He covered many field situations of distress occurred in RCC structures. Dr. Lalu Mangal, Retd. Professor from TKM College of Engineering, Kollam handled session on 'Problems in construction field and their solutions' and explained about the challenges during the construction phases for many consultancy works and the remedial measures taken. Dr. Narayanan S., former Professor, TKM college of Engineeering Kollam handled session on 'Rehabilitation aspects of concrete structures'. Dr. Nampoothiri, Retd professor from TKM College of Engineering and present HOD, Civil department SBCE Elavumthitta handled a session on 'Rehabilitation of concrete structures'. Dr. Nampoothiri detailed about the structural health monitoring, sensors and actuators, retrofit strategies adopted globally, concrete sustainability concerns - BEES approach, BEES methodology, LC Analysis of a building, Environmental impact assessment etc. Dr. Dhanya B.S., Associate Professor, department of civil Engineering, Rajiv Gandhi Institute of Technology, Kottayam explained about all durability tests done on concrete according to codal provisions. Mr. Anup Joy, Assistant Engineer, PWD roads section, Kozhenchery handled a session on 'Challenges in Bridge construction'. Mr. Anup Joy detailed about the planning stage, location study, fixing of foundation, piling, pile cap construction, pier construction, design and construction stages of bridges, curing and maintenance stages. Dr. Abey E. Thomas from College of Engineering, Aranmula handled session on 'Seismic design and detailing of RCC buildings using IS 1893 and IS 13920'. He explained about Seismic design methods, Seismic damages in buildings, Importance of ductility in seismic design of RC structures etc. On the last day of training program, field visits were arranged to Enath Bridge site and to Vazhiyambalam bridge site, Karuvatta Veeyapuram road. About 15 faculty members and 40 M. Tech students attended the training programme. Sessions were highly beneficial for faculty and P.G scholars for updating their knowledge level and to enhance their research interests in the field of advanced design of concrete structures.





Dr. N. Ganesan, Professor NIT Calicut inaugurating the training programme.



Participants with the chief guest Professor Dr. N.Ganesan.



ACTIVITY REPORT

#### SREE BUDDHA COLLEGE OF ENGINEERING DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING FACULTY DEVELOPMENT PROGRAMME ON LEARNING MANAGEMENT SYSTEM

A five-day Faculty Development Programme (FDP) on Learning Management System (LMS) was organized by the Computer Science and Engineering Department of Sree Buddha College of Engineering on 21, 22 & 31 of May and 25 & 26 of June 2018. The aim of the programme was to make the faculty members of the college aware of the various Learning management systems available. Practical sessions were conducted on the Moodle LMS. Thirty six faculty members from various departments of the college attended the course. All the sessions are held at Internet lab in Library Block of the college. On each day of the FDP, lecture sessions are conducted in the forenoon, which was followed by lab sessions in the afternoon to give hands-on experience.

The FDP started with an inaugural session held at 9:30 am on 21 May 2018. Dr. R. Gopakumar, Convener gave an outline of the course and welcomed Prof. K. Sasikumar, Hon'ble Chairman of Sree Buddha Group of Institutions, Dr. S. Suresh Babu, Principal of Sree Buddha College of Engineering, resource persons and participants of the FDP. Dr. Suresh Babu stated his aspirations about the course in the presidential address. Prof. Sasikumar inaugurated the FDP and addressed the participants. The inaugural session ended with the Vote of Thanks given by Mr. Gopu Darsan, Course Coordinator.







Inaugural session of FDP on LMS: a) Welcome Address by Dr. Gopakumar, Convener. b) Presidential address by Dr. S. Suresh Babu, Principal. c) Inaugural address by Praf. K. Sasikumar, Chairman, Sree Buddha Group of Institutions and d) Vote of Thanks by Mr. Gopu Darsan, Course Coordinator

DAY 1 (21/06/2018)



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The first session was "Introduction to Maasive Open Online Course (MOOC)" handled by Dr. Gopakumar, Professor, Department of Civil Engineering. He introduced various MOOC platforms like EdX, Udemy, Coursera, NPTEL, Swayam etc. Sample course details offered through Coursera were introduced to the participants and showed the different facilities available in the Coursera platform. The participants were given awareness about the importance of doing courses through the MOOC platforms. The session ended by giving an introduction to Learning Management system by Mr. Gopu Darsan, Assistant Professor, Sree Buddha College of Engineering.



Session on "Introduction to Massive Open Online Courses" by Dr. R. Gopakumar

The second session was handled by Mr. Jayaprakash, Network Administrator, Sree Buddha College of Engineering. An introduction about the Moodle platform was given. The session included the structure of Moodle platform, how it works, and also how it is useful in the teaching-learning process. Various user Id's were created during the session and given to each participant to understand the features of the Moodle software. He also explained about the advantages of using Moodle and how it differs from the other learning management systems. He also introduced the Moodle web address generated for login and to do the hands-on session in the afternoon. Above session was followed by a lab session where all the participants logged into the Moodle platform and got familiarized with its different features. The participants were also guided on how to work in Moodle as a Student, Teacher and also as Administrator.

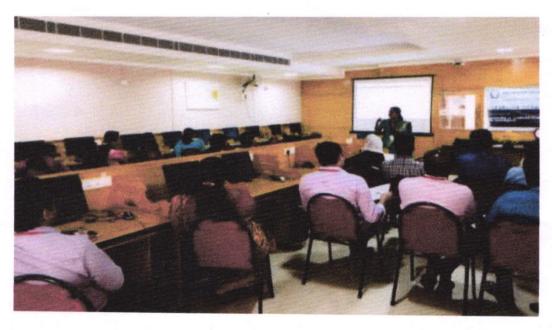
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Session on "Introduction to Moodle" by Mr. Jayaprakash

#### DAY 2 (22/06/2018)

The sessions on the second day were handled by Ms. Vidya V., Assistant Professor, Department of Mechanical Engineering. The session mainly focused on creating the course module in Moodle which included uploading the course contents in the modules. All the features of creating a course module was explained in the session. Setting up of assignments was also introduced in the session.



Session on "Course Creation in Moodle" by Ms. Vidya V.

A Moodle assignment was given to all participants to complete uploading the course work of first three modules of the subjects to be handled in the next seme—ster on or before 31/05/2018. Later review showed that all the participants completed the assignment on time.

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#### DEPARTMENT OF ELECTRONICS AND COMMUNICATION

### FDP on "Modern Trends in Power Electronic Devices, Circuits and applications" from 18/06/2018 to 22/06/2018

The department of Electronics and Communication, Sree Buddha College of Engineering Pattoor organized a 5 Day Faculty Development Program on "Modern Trends in Power Electronic Devices, Circuits and Applications" from 18/06/2018 to 22/06/2018. The function was presided by Sri K K Sivadasn Treasurer SBCE Pattoor. Dr.S Suresh Babu Principal SBCE expressed his well wishes to the department and Mr. Alex V Assistant Professor department of ECE for taking initiatives for arranging such a program, he also detailed about the future trends and scope in the field of Power Electronics.

The 5 day FDP started off with lecture classes by prominent faculties, these were then followed by Lab sessions and hands on practices. The people from APC (American Power Conversion Corporation) displayed and demonstrated the working of their Inverters and Smart UPS; this was actually a new experience for the participants as they were able to see the industrial implementation of the theory learned. Rayz Led Lighting solutions, Kollam gave hands on session on how to assemble a LED light by oneself in a very cost effective way and can be commercialized. The FDP was attended by faculties from various colleges.



Sri K K Sivadasn Treasurer SBCE Pattoor inaugurating 5 Day FDP





Dr. S Suresh Babu Principal SBCE delivering a lecture on power devices



Mr. Roy from APC explaining the working of on line inverters

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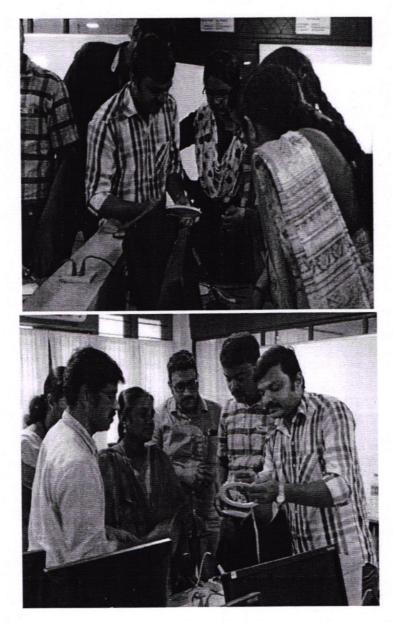


Mr. Manoj from Rayz Led Lighting solution explaining the assembly of led lights

Dr. S. SURESH BABU

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Mr. Dhaneesh from Rayz Led Lighting solution demonstrating the assembly of led lights



## SREE BUDDHA COLLEGE OF ENGINEERING DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING REPORT

ONE WEEK FACULTY DEVELOPMENT PROGRAMME

#### THEORY OF COMPUTATION

An one week Faculty Development Programme on 'THEORY OF COMPUTATION' was organized by Department of Computer Science of Sree Buddha College of Engineering from 04<sup>th</sup> June 2018 to 09<sup>th</sup> June 2018. The inaugural function was held at Room no. C108, CS Block. The Workshop was inaugurated by Prof. Anil A. R., Head, Dept. Of CSE, Sree Buddha College of Engineering.

The goal of the Programme was the training of Theoretical Foundations of Computation for Computer Science faculties and PG scholars. The course module was planned according to KTU syllabus of 5<sup>th</sup> semester CSE subject 'Theory of Computation'.

The resource person for the FDP was Prof. Anil Kumar S. He is working as Assistant Professor in the Dept. Of Computer Science & Engg., at Govt. Engineering College, Painavu, Idukki. He is a member of syllabus revision committee at APJ Abdul Kalam Technological University. The syllabus for this subject was also set by him. At present he is pursuing his PhD in Real & Complex Analysis and Digital Image Processing from NIT Calicut.

The FDP was attended by 24 participants from different colleges including 15 faculties and 9 PG scholars. In the first day, the session was started at 9.15 am and ended at 4.30 pm. For the remaining 5 days it was from 8.30 am to 4.30 pm. (Detailed schedule attached)

The 6 days sessions covered all the areas in Theory of Computation and sessions were very informative to participants especially faculties. On 09<sup>th</sup> June 2018, after the sessions were over, participants shared their experience and gave feedback about the programme. All the participants were satisfied as the FDP met their expectations and shown interest in attending such programmes in future. The certificates were distributed to participants by Prof. Anil A R, Head, Dept. Of CSE, SBCE.



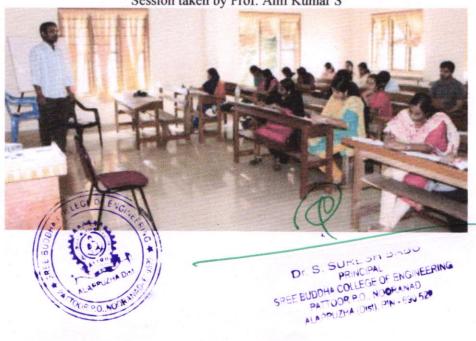
Inaugural talk by Prof. Anil A R, Head, Dept. Of CSE, SBCE



Session taken by Prof. Anil Kumar S



Session taken by Prof. Anil Kumar S



#### Session taken by Prof. Anil Kumar S



Participants with resource person Prof. Anil Kumar S, Convener of FDP, Prof. Anil A R & Coordinator Prof. Arun .P .S



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#### 5 DAY FACULTY DEVELOPMENT PROGRAMME ON 'RECENT ADVANCES IN INDUSTRIAL DRIVES & CONTROL'



A 5 day, faculty development programme on 'Recent Advances in Industrial Drives & Control' was hosted from 09th to 13th July 2018 in the college campus for the Post Graduate (PG) students and faculties. The FDP was formally inaugurated on 9/7/2018 by Dr. B. Premlet, Professor in Physics, MES Institute of Technology and Management, Chathannoor& Former HoD, Dept. of Physics, T K M College of Engineering, Kollam, in the presence of Dr. S. Suresh Babu, Principal, SBCE, Sri. K. K. Sivadasan, Treasurer, SBCE, Prof. Vinod V P, HOD, EEE, SBCE, Mr. Vishnu J and Ms. Gayathri V, FDP Coordinators, by lighting the lamp. The FDP was intended to develop awareness among PG students, researchers and faculties regarding the significance of Modern trends in modelling, simulation and control of complex systems for various new generation applications

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# SIX DAY FACULTY DEVELOPMENT PROGRAM ON "MODELLING OF COMPLEX PROBLEMS IN ANSYS SOFTWARE"

The Department of Civil Engineering, Sree Buddha College of Engineering, Pattoor organized a six day Faculty Development Programme on "Modelling of complex problems in ANSYS Software" scheduled from 16th to 21st July 2018. Dr.E.K Bhass, Head of the department civil formally inaugurated the session. Dr.Gouri Antherjanam, Professor, Department of Civil, was the chief advisor of the programme. Ms Ritzy R, Assistant professor Department of civil coordinated the workshop. ANSYS workshop was a highly demanding training program considering its application in Research and Development (R & D) field. The problem solving in ANSYS require high skills and experience.

The resource persons were **Dr.Akash Rajan**, Vibration Analyst CEO, Tyrannus Innovative Engineering & Research Academy (TIERA) CET-TBI College of Engineering Trivandrum and **Dr Nivin Philip**, Associate Professor, Mar Baselios Christian College of Engineering & Technology, Idukki

The resource persons highlighted the following key areas: Introduction to ANSYS APDL and Workbench, Basics of FEA (focus on statics): Node numbering, Connectivity, Writing the first APDL code, Load Step Vs Time Step, Non-linear analysis, Linear and Nonlinear buckling and Concrete modelling and crack studies. The worksop was highly beneficial to the researchers interested in exploring the capabilities of ANSYS software.

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ACTIVITY REPORT Page 22



#### DEPARTMENT OF ELECTRONICS AND COMMUNICATION

#### Report on

#### **Faculty Training Program**

#### "THINK INNOVATIVE, DESIGN SMART"

A three day faculty training program on "Think Innovative, Design Smart" was organized by the department of Electronics and communication Engineering of Sree Buddha college of Engineering. Design thinking is one of the innovative strategies to design products for different problems using creative thinking. This workshop is intended to acquaint the participants with aspects of Design thinking, Design methods and practices, design pertaining to user understanding and its relevance in the modern context.

The program started with welcome address, delivered by Prof. Pavitha P. P., HoD, Department of ECE. Inaugurated by Dr.S. Suresh Babu, Principal SBCE, his words motivated to know more about "Design Thinking".

The workshop was organized in three different sessions,

#### DAY 1(6/8/2018): EXPLORE DESIGN THINKING

The introductory session was handeled by Prof.Gopu Darshan ,Assistant professor from department of CSE. He enlightened the session with concept of innovative thinking. The session was followed by Porf.Sabi S. , Assistant professor from department of ECE, he made us understand the process involved in desining creative products .

#### DAY 2(4/9/2018): METHODS AND TOOLS

The ideation part was taken up by Dr.Manoj Narayanan ,Associate Professor from department of BT&BCE.his session gave a new outlook of how to think innovatively in different situations. The second half was handled by Prof. Vaishak of ME department, he showed us different ways of prototyping.

#### DAY (3/10/2018): DOCUMENTATION

The session had a debet on different documentation process and several ways to encourage students to come up with innovative idea.

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Welcome address by Prof.Pavitha P P.



Introduction by Prof.Gopu Darshan Assistant professor, Department of CSE



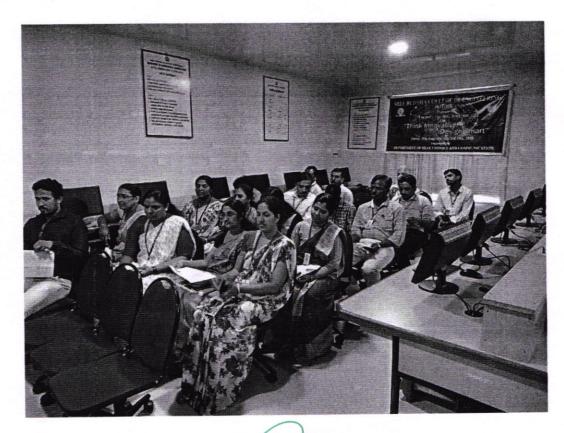
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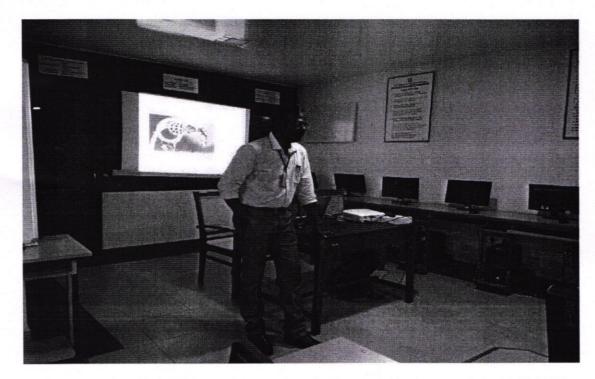
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Process of Design Thinking by Prof. Sabi S., Assistant professor, department of ECE







Ideation by Dr Manoj Narayanan ,Associate Professor from department of BT&BCE



ONE DAY SEMINAR REPORT ON "AWARENESS OF INTELLECTUAL PROPERTY RIGHTS(IPR) AND ITS RELEVANCE IN RESEARCH"

Date: 29th January 2019

Venue: Conference Hall, Library block

IPR plays a vital role in enhancing the socio-economic prosperity of the country. Creativity and innovation are new drivers of the world economy. With the increasing relevance of IP in this era of globalization, it's important to recognize the role which IP play in the growth of the nation. In view of this the Department of Electronics & Communication, Sree Buddha College of Engineering and Patent Information Centre(PIC) Kerala, Kerala State Council for Science, Technology & Environment in association with Internal Quality Assurance Cellconducted a one-day seminar on "Awareness of Intellectual Property Rights(IPR) and its Relevance in Research" on 29<sup>th</sup> January 2019 for UG, PG and Research scholars.

The venue of the program was Conference Hall, Library Block. The event started by 9.00am.Registration was opened at 9.00am and closed by 9.30am.Inaugural session was presided over by Dr. S Suresh Babu, Principal of Sree Buddha College of Engineering and inaugurated by Sri. K K Sivadasan, Treasurer of Sree Buddha Educational Society.Prof. Pavitha P P, HoD of ECE departmenthas given the welcome address. The resource persons and Prof. Sabi S, Program coordinator was also present.

The chief guests for the event were:

**Dr. Jippu Jacob**, Professor & coordinator- IPR cell of Kerala state council for Science, Technology and Environment (KSCSTE), Amal Jyothi College of Engineering, Kanjirappally. He took Ph D in Farm Machinery & Power from IIT, Kharagpur at 2008. He started his career as a lecturer in Kerala University from 1977 to 1979.

Shri. R S Praveen Raj, Senior Scientist in National Institute for Interdisciplinary Science & Technology (NIIST), Trivandrum (CSIR), and is responsible for Intellectual Property Management, Business Development, Technology Transfer and Human Resources Management. Have Industrial & Teaching experience and was working in Vikram Sarabhai Space Centre,

Thiruvananthapuram before joining Patent Office.

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**Shri. Vishnu V A**, Project fellow from PIC-Kerala, KSCSTE. PIC-related services Kerala was established in May, 2003. It has been providing IPR related services to the people in the state since its inception. The Centre functions with the partial financial support from Dept. of Science & Technology, Govt. of India.



Photo: Felicitation by Dr. S Suresh Babu, principal of Sree Buddha College of Engineering

Soon after the opening session the seminar has started by 10.00am. It comprised three dedicated sessions that elaborated on the various facets of IPR-its relevance, the process of filing a patent and the role of Patent Information Centre on assisting the IPR Procedures in Kerala.

The first sessionwas handled by Dr Jippu Jacob on the topic 'Overview ofIntellectualProperty Rights', he explained the intangible properties that could deem protection from infringement using the IPR system. A comprehensive idea of copyright, design, patents and trademark were explained in detail and the participants gathered a very clear understanding that violation of intellectual property rights, called "infringement" with respect to patents, copyright, and trademarks, and "misappropriation" with respect to trade secrets, may be a breach of civil law or criminal law, depending on the type of intellectual property involved, jurisdiction, and the nature of the action.

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Photo: First session by Dr. Jippu Jacob, Professor & coordinator- IPR cell of KSCSTE

The second session on Patents by Dr. R S Praveen Raj on the topic Patentabilitycriteria and Patent filing procedure, has discussed the patent filing procedures in India and various other case studies elaborating the same. In his session he opined that it is important to promote intellectual property licensing practices, particularly, with a view to foster creativity, innovation and the transfer and dissemination of technology in the country. He also shared many of his life experience in patent filing process.

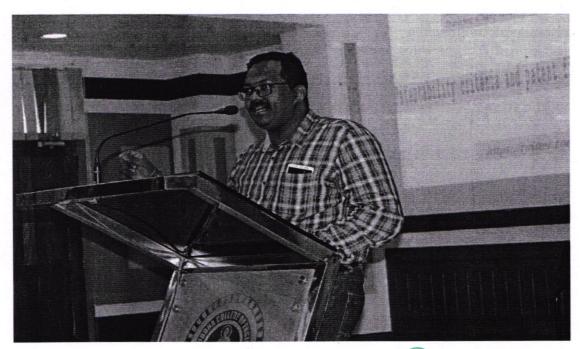
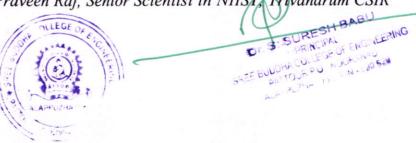


Photo: Shri. R S Praveen Raj, Senior Scientist in NIIST Trivandrum CSIR





Third session was by presented Sri. Vishnu V A on the "Patent topic Searching and Support from PIC-Kerala IP for protection". He explained how to search patent, how to

apply for a patent and also gave information on many websites; both national and international related to patents and also about the cost of applying for a patent.

Photo: Shri. Vishnu V A, Project fellow from PIC-Kerala, KSCSTE

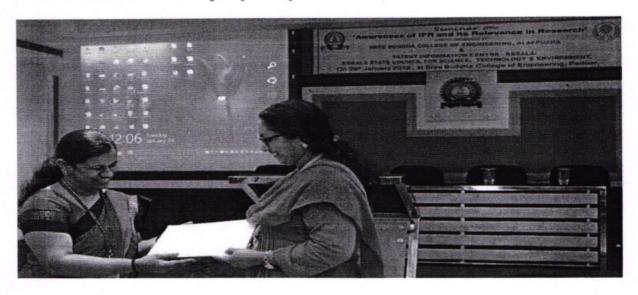


Photo: Prof. Pavitha P P, Head of ECE Department, SBCE handing over certificate to one of the participant.

The event concluded around 1:30 pm and certificates were distributed. The feedback obtained from the students showcased that the event was really informative, well structured, most effective and very useful for their future use, the overall impression about the program was very good. The successful conduction of the one-day seminar was only made possible because of the coordinated effort of the coordinators and students.



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#### REPORT

### IOT WORKSHOP ON POWER ELECTRONICS & INSTRUMENTATION

### JULY 3rd-5TH 2019

### ORGANIZED By DEPARTMENT OF ECE, SBCE, PATTOOR

This IoT enhanced power electronic workshop provided an outlook into the analysis of basic power electronic circuits, sensors and their industrial applications. The hands on sessions provided will help the faculty for the smooth conduct of power electronics and instrumentation lab under the new Semester 5 curriculum of Kerala Technological University. The application of semiconductor devices in PSP ranges from silicon based naturally commutated devices (Thyristor) to self-commutated devices (IGBT, IEGT, IGCT, etc.,) depending on the requirements such as switching characteristics, ease of gate control, reliability, low on state power losses and voltage drop, etc. In a similar way, the advancement in power converter topology ranges from cyclo-converter to multi-level voltage source converters to achieve harmonic distortion reduction, pure sinusoidal supply, etc. There are more operational challenges in multichannel parallel power converters based on internet of things inreal time applications.

IoT WORKSHOPONPOWER ELECTRONICS & INSTRUMENTATION was proposed for 3 days to offer a unique opportunity to the experts from major industries, academic institutions, distinguished practitioners in power electronics technology and graduate engineers to exchange their experiences, new ideas, practical challenges encountered in design & circuit implementation and Research Opportunities.

The main objective this workshop is to explore the operational challenges and research opportunities in industry level power electronic systems to integrate renewable energy sources. This can be described in a series of following sub-objectives.

- 1. Bring together senior professionals in the field of power electronics to provide helpful information to younger professionals.
- 2. Explore the current trends& challenges in power electronics used for solar power systems.
- 3. Emphasize active power sharing and circulating current reduction techniques in multichannel power converters fed variable frequency drives.
- 4. Explore power and control redundancy issues with the power converters.
- 5. Explore the Control complexity of Multichannel Power.
- 6. Explore advanced protection techniques for large rated power electronics converters.

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7. Explore the research opportunities in power electronic converters for grid energy storage in view of the

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### following:

- \*\* Converter topology
- \*\* Variable Frequency Drives
- \*\* PWM schemes
- \*\* Soft switching and isolation of converter during faults
- \*\* Design and development of solar power systems

In the afternoon sections of workshop, the students implemented the circuit and noted its performance. Laboratory assistants and the M.Tech students of the department deserve special thanks for their help to the participants. Every participant was able to execute the instructions and implement the circuits successfully. They were delighted to learn the corroboration of theoretical design and the experimentally obtained outputs by themselves. Sufficient volunteers were present to help them. The participants were provided with hard copy documents beforehand so that they can follow the lecture session and also for their future help. The program was concluded with a valedictory session where participants were given participation certificates. The participants praised the volunteers whole heartedly and thanked the organizers for the program. They also showed interest on such program in future.

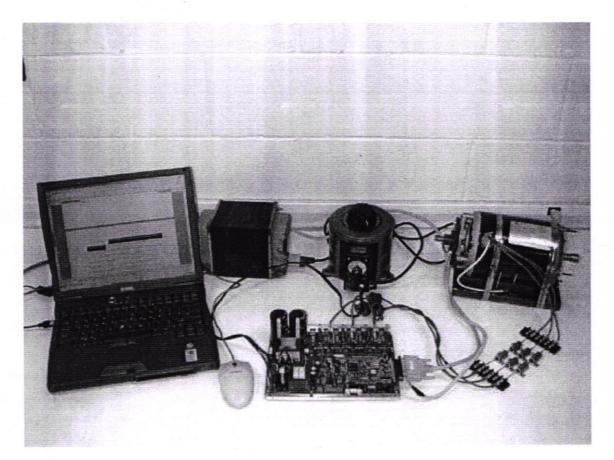




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Pattoor P.O, Nooranad, Alappuzha District, Pin-690 529 Phone: 0749-2375440,42,43, Web: www.sbce.ac.in, e-mail: principal@sbce.ac.in

Department of ECE & EEE

# Certificate of Participation

This is to certify that Ms.CHAMA R CHANDRAN has attended the F o T Workshop on Power Electrinic Drives & Instrumentation" organized by Depatrment of ECE / EEE from 03.07.2019 to 05.07.2019.

Prof. Alex.V Convener Prof. Pavitha P. P HoD, ECE Dr. S.Suresh Babu Principal





# APJ Abdul Kalam Technological University

sponsored

# 5 Day Faculty Development Programme



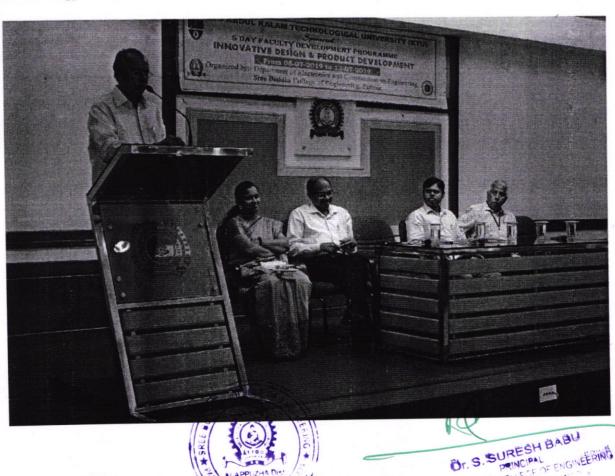
on

### INNOVATIVE DESIGN & PRODUCT DEVELOPMENT

Organized by

## Department of ECE, SBCE, Pattoor

The Electronics & Communication Department has organized 5 Day Faculty Development Programme on the topic "Innovative Design and Product Development" in association with APJ Abdul Kalam Technological University during 8th to 12th July 2019. The programme intend to provide an insight into the various methods and strategies followed in product design and development process. The FDP was inaugurated by Prof. P. Chakravarthy of IIST, Trivandrum on 08-07-19 in the presence of Shri. K. K. Sivadasan, Treasurer, Sree Buddha Educational Society and Dr. S Suresh Babu, Principal, Sree Buddha College of Engineering, Pattoor. The FDP was delivered to a participant count of 30 in which 20 are from other KTU affiliated colleges such as Govt. Engineering College Munnar, Adi Sankara Institute of Engineering and Technology, Vijnan Institute of Science & Technology , Musaliar College of Engineering and Technology etc.,



### Day 1:

The Class was handled by Prof. Arun J S, IEDC Nodal Officer, Mar Baselious College of Engg, on the topic Design thinking. The forenoon session dealt with the concept of design thinking and afternoon session discussed the methodologies used in design thinking process.

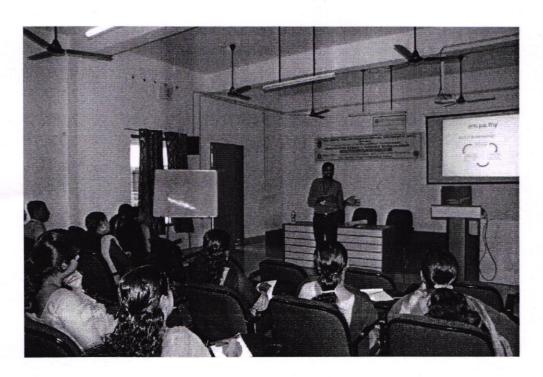


### Day 2:

The forenoon session has taken by Dr. Manoj Narayanan, Dept. of BT & BCE, SBCE Pattoor on the topic ideation. The session has started with an introduction into design thinking process. Later discussed the importance of ideation in design in a generalized manner.



Prof. Gopu Darsan has handled the afternoon session on creative problem solving. The session was included with more real life examples where creative problem solving was shown with different design thinking strategies.



Day 3:

The day was started with the sharing of knowledge and experience by Mr. Binu Sankar, Assistant Director, EY and Head of the innovation Hub EY, Trivandrum about the industrial design. More details on the creative design process at the industrial domain was shared with examples.



### Day 3 AN & Day 4:

Mr. Thomas Zacharia, Life Skill trainer, Certified Facilitator at ICT Academy of Kerala has then covered the 3 sessions from day 3 afternoon to day 4 afternoon. On day 3, he has outlined the concept of product development with group activities. On day 4, product development was continued with more details with activity on product canvas development. The afternoon session included business canvas development.



Day 5:

Mr. Nidhin Das, Lead HR at ICT Academy Kerala has handled the session on day 5. In the morning has explained the importance of intellectual property rights and process involved in applying for patents. Later he shared the relevance of going for trademark and steps for starting a company or rather start-ups. The session was ended on an activity on creative design process.



The FDP was concluded with valedictory function in which Principal addressed the audience and participation certificates were given.





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