SREE VENKATESWARA COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and Affiliated to Jawaharlal Nehru Technological University , Anantapuramu)

GOLDEN NAGAR, NH5 BYPASS ROAD, NORTH RAJUPALEM, KODAVALURU (V&M), SPSR NELLORE

email: sving9@gmail.com website : www.svcn.ac.in

Date: 25-06-2016

Program Report

1. **Name of the Event**: Add-on Program on Advaned DSP Programming using CC Studio

Date / Duration:**01-06-2016 to 20-06-2016**/ 10:00 AM to 1:00 PM

Resource Person: Mr. P.Ravi Kumar, Asst. Professor, ECE, SVCN.

Mr. S.Ramesh Babu, Asst. Professor, ECE, SVCN.

Number of students attended: 35

Program Objective:

- Enumerate the basic concepts of signals and systems and their interconnections in a simple and easy-to-understand manner by employing different mathematical operations like folding, shifting, scaling, convolutions, Z-transform etc
- Basics on Digital Signal Processors
- To gain knowledge in Programmable DSP‘s Architecture,
- Good understanding of On-chip Peripherals and Instruction set
- To understand TMS320C5X PROCESSOR
- How to write Programming for signal processing applications using C language
- To Know the on Advanced Programmable DSP Processors like adsp210xx,TMS320C55x DSPs
- How to use CCstudio for DSP applications

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Program Outcome: At the end of this course, each student should be able to:

- Analyze the concepts of Digital Signal Processors
- Demonstrate their ability to program the DSP processor for signal processing applications
- Discuss, compare and select the suitable Advanced DSP Processors for real-time signal processing applications
- Able to write C programs for DSP applications
- Able to execute DSP programs using CC Studio
- Hands on experiance on CCstudioss

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Date: 25-06-2017

Program Report

2. **Name of the Event**: Add-on Program on Advanced VLSI Design Concepts

Date / Duration:**05-06-2017 to 24-06-2017**/ 10:00 AM to 1:00 PM

Resource Person: Mrs. S.V.Padmajarani, Professor, ECE, SVCN.

Mr. Md.Immadulla Khan, Asst. Professor, ECE, SVCN.

Number of students attended: 55

Program Objective:

- Be able to use mathematical methods and circuit analysis models in analysis of CMOS digital electronics circuits, including logic components and their interconnect.
- Be able to create models of moderately sized CMOS circuits that realize specified digital functions.
- Be able to apply CMOS technology-specific layout rules in the placement and routing of transistors and interconnect, and to verify the functionality, timing, power, and parasitic effects.
- Have an understanding of the characteristics of CMOS circuit construction.Be able to complete a significant VLSI design project having a set of objective criteria and design constraints.
- To introduce the concepts and techniques of modern integrated circuit design and testing (CMOS VLSI)
- To provide experience designing integrated circuits using Computer Aided Design (CAD) Tools Be able to design static CMOS combinational and sequential logic at the transistor level, including mask layout.
- Describe the general steps required for processing of CMOS integrated circuits.
- Estimate and optimize combinational circuit delay using RC delay models and logical effort
- Estimate and optimize interconnect delay and noise

- Design for higher performance or lower area using alternative circuit families
- Describe and avoid common CMOS circuit pitfalls and reliability problems
- Compare the tradeoffs of sequencing elements including flip-flops, transparent latches, and pulsed latches
- Design functional units including adders, multipliers, ROMs, SRAMs, and PLAs

Program Outcome: At the end of this course, each student should be able to:

- Identify the various IC fabrication methods.\
- Express the Layout of simple MOS circuit using Lambda based design rules.
- Apply the Lambda based design rules for subsystem design CO4 : Differentiate various FPGA architectures.
- Be able to use mathematical methods and circuit analysis models in analysis of CMOS digital electronics circuits, including logic components and their interconnect.
- Be able to create models of moderately sized CMOS circuits that realize specified digital functions.
- Be able to apply CMOS technology-specific layout rules in the placement and routing of transistors and interconnect, and to verify the functionality, timing, power, and parasitic effects.
- Have an understanding of the characteristics of CMOS circuit construction and the comparison between different state-of-the-art CMOS technologies and processes.
- Be able to complete a significant VLSI design project having a set of objective criteria and design constraints

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Date: 25-06-2017

Program Report

Name of the Event: Add-on Program on Advanced Wireless Networks

Date / Duration:**05-06-2017 to 24-06-2017**/ 10:00 AM to 1:00 PM

Resource Person: Mr. G.Kalyani, Asst. Professor, ECE, SVCN.

Mrs. P.Jyoshna, Asst. Professor, ECE, SVCN.

Number of students attended: 60

Program Objective:

- Describe network architectures and classifications.
- Explain different networking protocols.
- Describe different types of networks – LANs, PANs, WANs, Gigabit networks,WLANs, WiMax etc.
- Describe various network applications, and network security considerations.
- Deploy a control algorithm on a real-time target.
- To become familiar with the basics of Computer Networks.
- To learn Network architectures.
- To learn Concepts of fundamental protocols.
- . To gain the knowledge of internetworking concepts.
- To understand the knowledge of internetworking concepts in various applications.
- . To acquire knowledge of implementation concepts in congestion control and error detections.

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Program Outcome: At the end of this course, each student should be able to:

1. Classify network services, protocols and architectures, explain why they are layered.

2. Knowledge on key Internet applications and their protocols, and ability to develop their own applications.

3. Using the sockets API.

4. Practical knowledge gained by hands-on sessions.

5. Good Knowledge on Wireless wide area network

6. Gain the knowledge of application layer protocol.

7.Knowledge on Multicarrier Modulation and Smart antenna techniques,

8.OFDM-MIMO systems, Adaptive Modulation and coding with time slot scheduler

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Date: 25-06-2016

Program Report

Name of the Event: Add-on Program on Embbeded C Programming For Embedded Applications

Date / Duration:**01-06-2016 to 20-06-2016**/ 10:00 AM to 1:00 PM

Resource Person: Mr. P.Gopala Krishna, Asst. Professor, ECE, SVCN.

Mr. J.Raj Praveen, Asst. Professor, ECE, SVCN.

Number of students attended: 35

Program Objective:

- a study of the Embedded C language, including the language syntax, data types, and control structures.
- The students will then use Embedded C to write and run code on real embedded controller hardware.
- The student will learn how embedded controller hardware maps onto Embedded C data and control structures.
- how it makes writing Embedded C for many different types of embedded controllers possible.
- will have written and run Embedded C to control real hardware features such as GPIO (General Purpose Input/Output), ADC (Analog to Digital Conversion), and Serial I/O.
- Programming of LED's Interfacing
- Interfacing of seven segment display
- Interfacing of 16 x 2 LCD Programming using embedded C
- How to execute Embedded C programs using Keil Compiler

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Program Outcome: At the end of this course, each student should be able to:

- Identify Embedded C software components and know how they are different from standard C software components
- Recognize and use important concepts such as HAL (Hardware Abstraction Layer) to write Embedded C code that is portable to different embedded controllers
- Utilize hardware/software signaling mechanism to implement effective communication between embedded software stack and hardware
- Comprehend hardware communication protocols for implementation with other peripheral hardware devices such as GPIO, ADC, and Serial I/O
- Understand embedded controller hardware and software stack and their respective differences from traditional software development
- Hands on experiance on using Keil compiler.

PROGRAM CO-ORDINATOR **HOD**

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Date: 25-06-2019

Program Report

Name of the Event: Add-on Program on FPGA-Based System Design

Date / Duration:**02-06-2019 to 21-06-2019**/ 10:00 AM to 1:00 PM

Resource Person: Mr. S.Venkatesh, Asst. Professor, ECE, SVCN.

Mr. P.V.Narasimha Swamy, Asst. Professor, ECE, SVCN.

Number of students attended: 40

Program Objective:

- Describe general FPGA architecture, internals and use cases
- Have an understanding of building blocks that are available to digital designers
- Apply design flow methodology for a given problem
- Create, synthesize and simulate various digital circuits
- Implement and debug various digital designs
- Model digital systems in VHDL and SystemC at different levels of abstraction.
- Partition a digital system into different subsystems.
- Simulate and verify a design.
- Transfer a design from a version possible to simulate to a version possible to synthesize.
- Use computer-aided design tools to synthesize, map, place, routing, and download the digital designs on the FPGA board
- Demonstrate a working RTL design with all aspects in the projects
- Apply basic control algorithms to a real physical system.
- Deploy a control algorithm on a real-time target.
- Apply verification and validation methods to a model of a physical systems.

- Use Design of Experimental methods to create models of physical systems.

Program Outcome: At the end of this course, each student should be able to:

- Design reconfigurable digital systems.
- Demonstrate and Debug the embedded systems before the actual product is developed.
- Design finite state machines for various applications.
- Design dynamic architectures using FPGA's.
- Implement, Design and develop embedded system using EDA tools
- Describe the architecture of FPGAs and logic design process and implement different logic circuits on the internal architecture of FPGA
- Write HDL codes of combinational and sequential Circuits and perform their functional verification.
- Design the control unit of a Digital Circuit and implement it using Finite State Machines (FSMs)
- Design of efficient and high speed adders and multipliers for optimizing the datapath of digital circuits.
- Analze Digital design in terms of area, power and speed.

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Date: 25-06-2019

Program Report

Name of the Event: Add-on Program on FPGA-Based System Design

Date / Duration:**02-06-2019 to 21-06-2019**/ 10:00 AM to 1:00 PM

Resource Person: Mr. S.Venkatesh, Asst. Professor, ECE, SVCN.

Mr. P.V.Narasimha Swamy, Asst. Professor, ECE, SVCN.

Number of students attended: 40

Program Objective:

- Describe general FPGA architecture, internals and use cases
- Have an understanding of building blocks that are available to digital designers
- Apply design flow methodology for a given problem
- Create, synthesize and simulate various digital circuits
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- Implement, Design and develop embedded system using EDA tools
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Date: 25-06-2019

Program Report

Name of the Event: Add-on Program on **FPGA-Based System Design**

Date / Duration:**02-06-2019 to 21-06-2019**/ 10:00 AM to 1:00 PM

Resource Person: Mr. S.Venkatesh, Asst. Professor, ECE, SVCN.

Mr. P.V.Narasimha Swamy, Asst. Professor, ECE, SVCN.

Number of students attended: 50

Program Objective:

- Describe general FPGA architecture, internals and use cases
- Have an understanding of building blocks that are available to digital designers
- Apply design flow methodology for a given problem
- Create, synthesize and simulate various digital circuits
- Implement and debug various digital designs
- Model digital systems in VHDL and SystemC at different levels of abstraction.
- Partition a digital system into different subsystems.
- Simulate and verify a design.
- Transfer a design from a version possible to simulate to a version possible to synthesize.
- Use computer-aided design tools to synthesize, map, place, routing, and download the digital designs on the FPGA board

Demonstrate a working RTL design with all aspects in the projects • **Apply basic control algorithms to a real physical system.**

• **Deploy a control algorithm on a real-time target.**

• **Apply verification and validation methods to a model of a physical systems.**

• **Use Design of Experimental methods to create models of physical systems.**

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Program Outcome: At the end of this course, each student should be able to:

- Design reconfigurable digital systems.(a,b
- Demonstrate and Debug the embedded systems before the actual product is developed.
- Design finite state machines for various applications.
- Design dynamic architectures using FPGA's.
- Implement, Design and develop embedded system using EDA tools
- Describe the architecture of FPGAs and logic design process and implement different logic circuits on the internal architecture of FPGA
- Write HDL codes of combinational and sequential Circuits and perform their functional verification.
- Design the control unit of a Digital Circuit and implement it using Finite State Machines (FSMs)
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Date: 25-06-2015

Program Report

Name of the Event: Add-on Program on Introdution to Real time IoT Systems

Date / Duration: 01-06-2015 to 20-06-2015/ 10:00 AM to 1:00 PM

Resource Person: Mr. P. RAJESH, Sr. Asst. Professor, ECE, SVCN.

Mr.V. PRAVEEN KUMAR, Asst. Professor, ECE, SVCN.

Number of students attended: 25

Program Objective:

1.To understand the aspects of Real Time Embedded concepts

2.To learn the Essentials of Open Source RTOS and their usage

3. To select the proper technique to design a Real-Time System

4. To understand VxWorks RTOS and real time application programming with it

5. To build the device driver and kernel internal for Embedded OS and RTOSearn and apply the knowledge of Memory systems

6. To understand the Inter Process Communication – Semaphore, Pipes, FIFO

7. In-depth knowledge about Shared Memory Kernel

8. In-depth knowledge about Kernel Module Programming Schedulers and types of scheduling.

9. Comprahensive Knowledge about Interfacing and interrupt Management

10.To expose to POSIX standards and RTOS Issues

11. To understand how to selecting a Real-Time Operating System

12. The exposure to many real-life industry-based projects

13. To expose to Real-time concepts, Hard Real time and Soft Real-time

14. To understand differences between General Purpose OS and RTOS

15. Basic architecture of an RTOS, Scheduling Systems

16. Exposure to Inter-process communication protocols

17. Calculating the Performance Matric in scheduling models
18. In-depth knowledge about Real Time Operating Systems
19.Effective Task scheduling,interrupt processing, clocking, communication and Synchronization.
19.How effectively use memory requirements and control
20. Understanding of kernel services
21. To discuss Interface Issues Related to Embedded Systems
22. To design real time Project on Banking using RTOS

Program Outcome: At the end of this course, each student should be able to:

- List and use RTOS concepts for problem solving.
- Write Programs using RTOS
- How effectivelyuse the Memory Management techniques .
- How to synchronize the tasks using Inter process Communication
- Able to handle the interrupt handling techniques based on Priority
- Able to differentiate between hard real time system and soft real time systems
- Hands on experiance on RTOS
- Gain the knowledge about kernal
- Good knowledge about how to use Pipes, Semaphore, Message Queue, Signals, and Sockets for IPC
- Gaining knowledge about memory requirements and control
- Have understanding of Task Management
- Sufficient knowledge about interfacing issues.
- Able to design RTOS

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Date: 25-06-2017

Program Report

3. **Name of the Event**: Add-on Program on Advanced Wireless Networks

Date / Duration:**05-06-2017 to 24-06-2017**/ 10:00 AM to 1:00 PM

Resource Person: Mr. G.Kalyani, Asst. Professor, ECE, SVCN.

Mrs. P.Jyoshna, Asst. Professor, ECE, SVCN.

Number of students attended: 60

Program Objective:

- Describe network architectures and classifications.
- Explain different networking protocols.
- Describe different types of networks – LANs, PANs, WANs, Gigabit networks,WLANs, WiMax etc.
- Describe various network applications, and network security considerations.
- Deploy a control algorithm on a real-time target.
- To become familiar with the basics of Computer Networks.
- To learn Network architectures.
- To learn Concepts of fundamental protocols.
- . To gain the knowledge of internetworking concepts.
- To understand the knowledge of internetworking concepts in various applications.
- . To acquire knowledge of implementation concepts in congestion control and error detections.

Program Outcome: At the end of this course, each student should be able to:

6. Classify network services, protocols and architectures, explain why they are layered. (a,b,d)

7. Knowledge on key Internet applications and their protocols, and ability to develop their own applications.

8. Using the sockets API.

9. Practical knowledge gained by hands-on sessions.

10. Good Knowledge on Wireless wide area network

6. Gain the knowledge of application layer protocol.

7.Knowledge on Multicarrier Modulation and Smart antenna techniques,

8.OFDM-MIMO systems, Adaptive Modulation and coding with time slot scheduler

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Date: 25-06-2015

Program Report

Name of the Event: Add-on Program on Introduction to Wavelets to Signal Processing

Date / Duration: 01-06-2015 to 20-06-2015/ 10:00 AM to 1:00 PM

Resource Person: Mr. V. Sudheer, Asst. Professor, ECE, SVCN.

Mrs. P. Sashitha, Asst. Professor, ECE, SVCN.

Number of students attended: 20

Program Objective:

- To expose the students to the basics of wavelet theory
- To describe the use of wavelet processing for data compression and noise suppression.
- In-depth Knowledge about windowed fourier transform
- Continuous wavelet transform. time-frequency resolution.
- To discuss about fast wavelet algorithm
- To know how to construction of wavelets from MRA.
- Deep knowledge about cascade algorithm
- To understand franklin and spline wavelets
- To discuss wavelet methods for image processing
- To know how to represent the Frane and Hilbert space frames
- How to representation of signals by frames
- Comprahensive knowledge about Frame algorithm
- To understand algorithm for reconstruction from corrupted frame representation

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- **Program Outcome:** At the end of this course, each student should be able to:
- To understand the limitations of fourier Transform and basics of wavelets
- Gain the knowledge about Windowed Fourier transform
- To understand Continuous wavelet transform.
- Deep knowledge about Fast wavelet algorithm and Fraklin algorithem
- Good understanding of How to represent wavelets from MRA
- Sufficient knowledge about representation of signals by Frames and Frames algorithem
- Good knowlege about wavelet methods for signale processing
- Implimenting Algorithm for reconstruction from corrupted frame representation

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Date: 25-06-2019

Program Report

4. **Name of the Event**: Add-on Program on WIRELESS SENSOR NETWORKS

5. **Date / Duration**:**02-06-2019 to 07-06-2019**/ 10:00 AM to 1:00 PM

Resource Person: Mrs. C.Vidya, Asst. Professor, ECE, SVCN.

Mrs. K. Suneela, Asst. Professor, ECE, SVCN.

Number of students attended: 45

Program Objective:

1. To understand the WSN node Architecture and Newtork Architecture
2. To identify the Wireless Sensor Network Platforms
3. To program WSN using embedded C
4. To design and Develop wireless sensor node
5. To study the concepts of sensor networks.
6. To study the research issues in different layers of sensor networks
7. To program sensor motes using Tiny OS Programming.
8. TO provides the knowledge on applications, architectures and protocols of wireless sensor networks.
9. To give the overview regarding the software platforms and tools required for wireless sensor networks.

Program Outcome: At the end of this course, each student should be able to:

- Students will be introduced to some existing applications of wireless sensor actuator networks
- Students will be introduced to elements of distributed computing and network protocol design and will learn to apply these principles in the context of wireless sensor networks
- Students will learn the various hardware, software platforms that exist for sensor networks

- Students will get an overview of the various network level protocols for MAC, routing, time synchronization, aggregation, consensus and distributed tracking
- Students will learn to program sensor network platforms using TinyOS, C and Java and will get an opportunity to have hands on training in developing applications on wireless motes, smart phones and other embedded platforms
- Students will read and present seminal papers on various issues in sensor networks, opening a path to research in this area
- Students will understand what research problems sensor networks pose in disciplines such as signal processing, wireless communications and even control systems
- Introduction to sensor networks Localization and Synchronization MAC layer issues Network layer issues and protocols
- Transport layer issues and protocols Middleware layer Security in sensor networks
- To develop wireless sensor systems for different applications using 802.15.4

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Date: 25-06-2017

Program Report

6. **Name of the Event**: Add-on Program on WIRELESS SENSOR NETWORKS

7. **Date / Duration**:**02-06-2019 to 07-06-2019**/ 10:00 AM to 1:00 PM

Resource Person: Mrs. C.Vidya, Asst. Professor, ECE, SVCN.

Mrs. K. Suneela, Asst. Professor, ECE, SVCN.

Number of students attended: 45

Program Objective:

10. To understand the WSN node Architecture and Newtork Architecture
11. To identify the Wireless Sensor Network Platforms
12. To program WSN using embedded C
13. To design and Develop wireless sensor node
14. To study the concepts of sensor networks.
15. To study the research issues in different layers of sensor networks
16. To program sensor motes using Tiny OS Programming.
17. To provides the knowledge on applications, architectures and protocols of wireless sensor networks.
18. To give the overview regarding the software platforms and tools required for wireless sensor networks.

Program Outcome: At the end of this course, each student should be able to:

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- Students will be introduced to elements of distributed computing and network protocol design and will learn to apply these principles in the context of wireless sensor networks
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email: sving9@gmail.com website : www.svcn.ac.in

Date: 25-06-2018

Program Report

Name of the Event: Add-on Program on **Analog Circuits Design for Filters and Amplifiers using discrete components**

Date / Duration: **03.06.2018 to 21.06.2018**/ 10:00 AM to 1:00 PM

Resource Person: Mr.K.Harsha Vardhan, Sr. Asst. Professor, ECE, SVCN.

Mr. V.Srikanth, Asst. Professor, ECE, SVCN.

Number of students attended: 60

Program Objective:

1. Differentiate between Analog, Digital and Mixed Signal CMOS Integrated Circuits.
2. Analyze and design current sources and voltage references for given specifications.
3. Analyze and design single stage MOS Amplifiers.
4. Analyze and design Operational Amplifiers.
5. Analyze and design data converter circuits
6. To learn about various types of analog systems.
7. To study the practical aspects of linear and non-linear applications of OP-AMP.
8. To design the oscillators using OP-AMP and Transistors.

9) To studies the design of electronic circuits for active filters

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email: sving9@gmail.com website : www.svcn.ac.in

Program Outcome: At the end of this course, each student should be able to:

- Infer the DC and AC characteristics of operational amplifiers and its effect on output and their compensation techniques.
- Getting familiarized with basic integrated circuit components, its designing & packaging
- Understanding various operating modes of Op-amp and its linear/non-linear applications
  - Designing of signal generators and low and high order filters
- Illustrate the function of application specific ICs such as Voltage regulators, PLL and its application in communication.
- Design linear op-amp circuits such as voltage follower, summing amplifier, scaling and averaging amplifier, instrumentation amplifier circuits for various practical applications.
- Design non-linear op-amp such as comparator, Schmitt trigger and multivibrator circuits for various practical applications using IC 555
- Analysis and design of filters.

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Date: 25-06-2019

Program Report

Name of the Event: Add-on Program on Introduction to the Internet of Things and Embedded **Systems.**

Date / Duration: 02-06-2019 to 21-06-2019/ 10:00 AM to 1:00 PM

Resource Person: Mr. P.Giri Prasad, Sr. Asst. Professor, ECE, SVCN.

Mr. A.Hemanth Kumar, Asst. Professor, ECE, SVCN.

Number of students attended: 40

Program Objective:

1.In-depth knowledge of the term "Internet of Things"

2. State the technological trends which have led to IoT

3. Describe the impact of IoT on society

4. Define what an embedded system is in terms of its interface

5. Enumerate and describe the components of an embedded system

6.To describe the current components of typical IoT devices

8.To reveal the trends for the future of IoT

9. To understand fundamentals of IoT and embedded system including essence, basic design strategy and process modeling.

10. To introduce students a set of advanced topics in embedded IoT and lead them to understand research in network.

11. To develop comprehensive approach towards building small low cost embedded IoT system.

12. To understand fundamentals of security in IoT,

13. To learn to implement secure infrastructure for IoT

14. To learn real world application scenarios of IoT along with its societal and economic impact using case studies

Program Outcome: At the end of this course, each student should be able to:

- Identify information security risks related to a particular IoT product or service
- Implement an architectural design for IoT for specified requiremen
- Solve the given societal challenge using IoT
- Choose between available technologies and devices for stated IoT challenge
- To introduce application of embedded systems for conversion, control and automation.
- Apply appropriate techniques and modern Engineering hardware and software tools in IoT enabled embedded devices to engage in life- long learning and to successfully adapt in multi-disciplinary environments.
- Understand the impact of Professional Engineering solutions in societal and environmental context, commit to professional ethics and communicate effectively.

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email: sving9@gmail.com website : www.svcn.ac.in

Date: 25-06-2018

Program Report

Name of the Event: Add-on Program on **Rasberry Pi Concepts & Its programming using Python**

Date / Duration: **03.06.2018 to 21.06.2018**/ 10:00 AM to 1:00 PM

Resource Person: Mr.P.Janardhan Sai Kumar Sr. Asst. Professor, ECE, SVCN.

Mr.P.Anil Kumar, Asst. Professor, ECE, SVCN.

Number of students attended: 60

Program Objective:

1. To learn and understand Python programming basics and paradigm.

2. To learn and understand python looping, control statements and string manipulations.

3. Students should be made familiar with the concepts of GUI controls and designing GUI applications.

4. To learn and know the concepts of file handling, exception handling and database connectivity.

5. The students will get handson experience in working with Raspberry Pi 3 and exploring python

6. Introduced to the world of physical computing.

7. How to use input devices to capture data, process that data with the Python programming language, and then use output devices to get information back out from your compute

8. To learn how to set up up the Raspberry Pi environment, get a Linux operating system running, and write and execute some basic Python code on the Raspberry Pi.

9. To learn how to use Python-based IDE (integrated development environments) for the Raspberry Pi and how to trace and debug Python code on the device.

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email: sving9@gmail.com website : www.svcn.ac.in

Program Outcome: At the end of this course, each student should be able to:

- Define and demonstrate the use of built-in data structures “lists” and “dictionary”
- Design and implement a program to solve a real world problem.
- Design and implement GUI application and how to handle exceptions and files.
- Make database connectivity in python programming language.
- will be able to understand the working of Raspberry Pi, its features and how various components can be used with Pi
- Develop understanding of how the Raspberry Pi can be used as a tool for physical computing.
- Apply knowledge of programming concepts to control digital inputs and outputs.
- Identify practical applications of inputs and outputs to make a project.
- Reflect on your learning and create ideas for your classroom practice.
- Identify ways of engaging learners in physical computing in your learning context.