Sri Krishna College of Engineering and Technology
(An Autonomous Institution)
Kuniamuthur, Coimbatore – 641 00
Department of Electronics and Communication Engineering

Value Added Course Details

Coursed Offered by the department

S.No.	Coursed Offered
1.	High Frequency Electromagnetic Field Simulation
2.	VLSI – Advanced digital design using Verilog
3.	Analog and digital IC design using CADENCE EDA tool
4.	Hands-on training in Raspberri Pi Embedded system
5.	IOT launch pad

Coursed Offered

1.) High Frequency Electromagnetic Field Simulation

An **electromagnetic field** (**EM field**) is a physical field produced by electrically charged objects. It affects the behavior of charged objects in the vicinity of the field. The electromagnetic field extends indefinitely throughout space and describes the electromagnetic interaction. It is one of the four fundamental forces of nature (the others are gravitation, weak interaction and strong interaction).

The field can be viewed as the combination of an electric field and a magnetic field. The electric field is produced by stationary charges, and the magnetic field by moving charges (currents). these two are often described as the sources of the field. The way in which charges and currents interact with the electromagnetic field is described by Maxwell's equations and the Lorentz force law

2.) VLSI – Advanced digital design using verilog

Verilog standardized as **IEEE 1364**, is a hardware description language (HDL) used to model electronic systems. It is most commonly used in the design and verification of digital circuits at the register-transfer level of abstraction. It is also used in the verification of analog circuits and mixed-signal circuits, as well as in the design of genetic circuits. The designers of

Verilog wanted a language with syntax similar to the C programming language, which was already widely used in engineering software development. Like C, Verilog is case-sensitive and has a basic preprocessor (though less sophisticated than that of ANSI C/C++). Its control flow keywords (if/else, for, while, case, etc.) are equivalent.

3.) Analog and digital IC design using CADENCE EDA tool

Cadence Virtuoso Analog Design Environment is the advanced design and simulation environment for the Virtuoso platform. It gives designers access to a new parasitic estimation and comparison flow and optimization algorithms that help to center designs better for yield improvement and advanced matching and sensitivity analyses. By supporting extensive exploration of multiple designs against their objective specifications, the Virtuoso Analog Design Environment sets the standard in fast and accurate design verification.

4.) Hands-on training in Raspberri Pi Embedded system

Raspberry Pi is a series of credit card-sized single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote the teaching of basic computer science in schools and in developing countries. The original model became far more popular than anticipated, selling outside of its target market for uses such as robotics. Accessories including keyboards, mice and cases are not included with the Raspberry Pi.

5.) The Internet of things (Internet of Things or IoT)

It is the internetworking of physical devices, vehicles (also referred to as "connected devices" and "smart devices"), buildings, and other items—embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data. In 2013 the Global Standards Initiative on Internet of Things (IoT-GSI) defined the IoT as "the infrastructure of the information society. The IoT allows objects to be sensed and/or controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit.