Applied Electronics

Keeping a view of growing need of the industry, the Department has introduced the new course- "**Applied Electronics**" from this academic year. This course consists of four special elective papers:

1. VLSI Design and Embedded Systems
2. VHDL, C++ and Python Programming
3. Embedded C and Interfacing
4. Biomedical Physics and Instrumentations

The subject of VLSI lays foundation for state of the art CMOS design. The students will familiarize with the basics of design and layout of CMOS VLSI circuits as well as learn advanced VLSI CMOS design flow used in the electronic industry.

VHDL is a hardware description language used in electronic design automation to describe digital and mixed-signal systems such as field-programmable gate arrays and integrated circuits.

The importance of C++ is also growing in embedded software due to the complexity of systems designed in today's world. The object-oriented programming is required for some of the complex electronic systems.

Python is probably the most important language to learn because of its rich ecosystem. Python is great backend web development, data analysis, artificial intelligence and scientific computing. Many developers also use Python to build productivity tools, games etc.

When it comes to programming embedded software, C and C++ remains the most popular. The popularity seems to be growing further extending into even chip programming.

Biomedical physics is devoted to the application of concepts and methods from physics to the diagnosis and treatment of human disease. Students are introduced to the physiological system of human in terms of various bioelectrical signals like ECG, EEG, EMG etc. The Biomedical instrumentation part covers study of various electrodes and transducers and acquisition of these signals.

Dr S. K. Dubey
Course Coordinator

Professor Vaishali Bambole
Chairperson & Head

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