PRIYADARSHINI INSTITUTE OF SCIENCE AND TECHNOLOGY FOR WOMEN
(Approved by AICTE, New Delhi and Affiliated to JNTUH Hyderabad)
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Department of Electronics & Communication Engineering

2024-25

Seminar on "Industry Requirements in VLSI Domain

Date: 27-09-2024

Introduction

The seminar on "Industry Requirements in the VLSI Domain" aimed to provide insights into the current trends, skills, and challenges within the Very Large Scale Integration (VLSI) sector. It attracted participants from academia, industry professionals, and students.

Seminar Agenda

The seminar was structured as follows:

1. **Introduction to VLSI**
   - Overview of VLSI technology and its significance in electronics.
   - Discussion on the evolution of the semiconductor industry.
2. **Current Trends in VLSI**
   - Exploration of emerging technologies, including AI, IoT, and 5G.
   - Insights into advancements in fabrication processes and energy efficiency.
3. **Skill Requirements for VLSI Professionals**
   - Identification of essential technical skills such as digital and analog design.
   - Importance of proficiency in software tools like VHDL, Verilog, and industry-standard tools.
4. **Industry Standards and Certifications**
   - Overview of key industry standards and the relevance of professional certifications.
5. **Challenges in the VLSI Industry**
   - Discussion on design complexity, supply chain issues, and the rapid pace of technological change.

6. **Case Studies**
   - Presentation of successful VLSI projects and key takeaways from industry leaders.
7. **Future Directions**
   - Predictions on the VLSI landscape, highlighting opportunities for innovation.
8. **Q&A Session**
   - Engaging discussion with participants addressing various industry-related queries.

Highlights

- **Expert Speakers**: Renowned professionals from the VLSI industry shared their experiences and insights.
- **Interactive Discussions**: The Q&A session fostered lively interactions, allowing participants to delve deeper into specific topics.
- **Networking Opportunities**: Attendees had the chance to connect with industry experts and peers.
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Resource Person Details:

Dr.B. Sarala
Professor
KMIT-HYDERABAD

Event Photo:

Industrial Tour:

National Institute of Amateur Radio (NIAR) Hyderabad

The Electronics and Communication Engineering (ECE) department of Priyadarshini Institute of Science and Technology for Women organized an industrial visit to the National Institute of Amateur Radio (NIAR), Hyderabad. The visit provided students with a deeper understanding of radio communication, wireless technologies, and emergency communication systems, reinforcing their classroom learning with practical exposure. Students were given an opportunity to operate radio transceivers and understand the working of antennas and signal

modulation techniques.NIAR experts explained how amateur radio operators communicate globally without internet or cellular networks A session on how amateur radio assists in emergency communication during natural disasters such as earthquakes, floods, and cyclones.Case studies of NIAR's contributions to disaster relief operations were shared to highlight the real-world impact of amateur

WORKSHOP: EMBEDDED SYSTEMS & Internet of Things

Workshop on Embedded Systems and the Internet of Things (IoT) aimed to provide participants with hands-on experience and theoretical knowledge about the integration of embedded systems in IoT applications. The event was held on 21-02-25&22-02-25at Seminar hall

Objectives

1. To understand the fundamentals of embedded systems.
2. To explore IoT architecture and protocols.
3. To develop practical skills in programming and interfacing embedded devices.
4. To create IoT applications using various platforms.

Agenda

- **Session 1:** Introduction to Embedded Systems
  - Overview of embedded systems
  - Key components: microcontrollers, sensors, and actuators
- **Session 2:** IoT Architecture
  - Understanding IoT layers
  - Communication protocols (MQTT, HTTP, CoAP)
- **Session 3:** Hands-on Activities
  - Programming microcontrollers (Arduino, Raspberry Pi)
  - Interfacing sensors and actuators
- **Session 4:** Developing IoT Applications
  - Cloud integration
  - Data visualization techniques
- **Session 5:** Challenges and Future Trends in IoT
  - Security and privacy concerns
  - Emerging technologies

Outcomes

1. Participants gained a solid understanding of embedded systems and their role in IoT.
2. Enhanced programming skills in languages such as C and Python.
3. Developed a prototype IoT solution during hands-on sessions.
4. Increased awareness of current challenges and future directions in IoT technology.

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