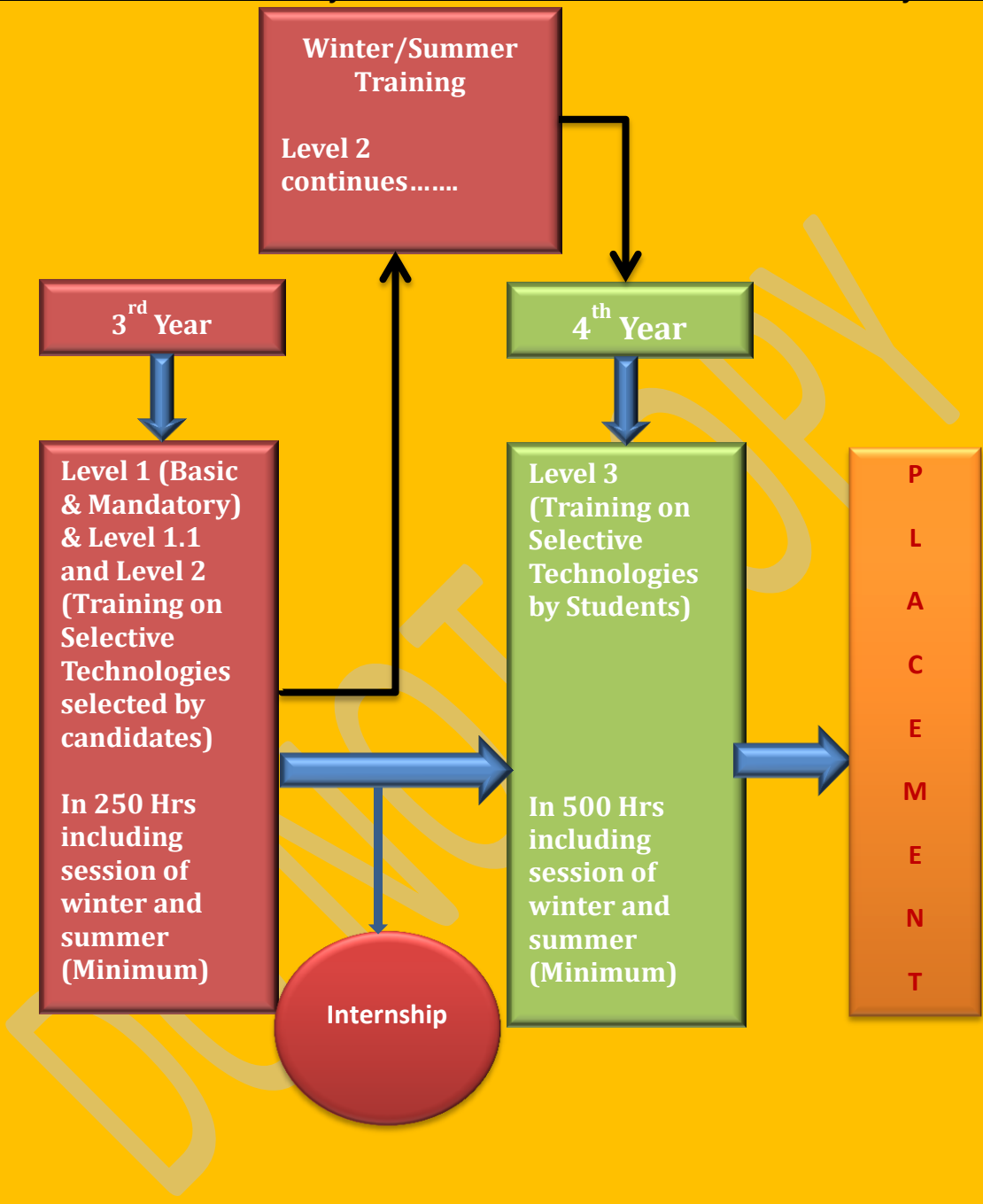


**Method We follow- How to Get Entry Pass in SEMICODUCTOR Industries for 3rd year engineering**



**FIG-3**

# Embedded System Design

## Course Structure for 3<sup>rd</sup> year only

Analog and Digital (20 Hrs ) Module -1	Fundamental of C and - (40 Hrs ) Module-2	Embedded System (40 Hrs ) - Module-3	Module-3- Continue
<p><b>Analog Electronics</b></p> <ul style="list-style-type: none"> <li>• Diode</li> <li>• BJT</li> </ul> <p><b>Digital Electronics</b></p> <ul style="list-style-type: none"> <li>• Boolean Algebra</li> <li>• Karnaugh Map</li> <li>• Logic Gates</li> <li>• Numbers system</li> <li>• Combinational Circuits</li> <li>• Sequential Circuits</li> <li>• FSM</li> <li>• Tutorial</li> <li>• HANDS ON (All gates, combinational and sequential circuit's simulation on Xilinx ISE Design and Vivado Design Suite).</li> </ul>	<p><b><u>Introduction to C Components</u></b></p> <ul style="list-style-type: none"> <li>• Header Files</li> <li>• Variables and Constants</li> <li>• Operators</li> </ul> <p><b><u>Decision Making and Control Statements</u></b></p> <ul style="list-style-type: none"> <li>• If-else.</li> <li>• Nested if -else.</li> <li>• Switch</li> <li>• Loops-for,while and do while.</li> </ul> <p><b><u>Programming in Depth Arrays and Strings</u></b></p> <ul style="list-style-type: none"> <li>• Basic Array Concepts</li> <li>• String Handling Functions</li> <li>• Programming</li> </ul> <p><b><u>Functions</u></b></p> <ul style="list-style-type: none"> <li>• Definition and Declaration</li> <li>• Calling and Passing Value to Functions</li> </ul> <p><b><u>Structures Pointers</u></b></p> <ul style="list-style-type: none"> <li>• Basic Concepts</li> <li>• Pointers and Arrays</li> <li>• Pointer and Structures</li> </ul> <p><b><u>Dynamic Memory Allocation</u></b></p> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Malloc,Calloc</li> </ul> <p><b>File Management.</b></p>	<p><b>Applications of Embedded System</b></p> <ul style="list-style-type: none"> <li>• Domains of Embedded System</li> <li>• Case study: Embedded System v/s standard Computer System</li> <li>• Case study: Embedded System</li> <li>• Block Diagram: General Embedded System</li> <li>• Classification of Processors</li> <li>• Micro- Processor v/s Micro-controller</li> <li>• Product Development Lifecycle: Embedded Systems</li> </ul> <p><b><u>Introduction to 8051</u></b></p> <ul style="list-style-type: none"> <li>• Basic Components of 8051</li> <li>• Block Diagram: 8051</li> <li>• Pin Description</li> <li>• Criteria in Choosing a Microcontroller</li> <li>• 8051 Microcontroller Family</li> <li>• 8051 Hardware Detail</li> </ul>	<p><b><u>Software Development Tools for 8051</u></b></p> <ul style="list-style-type: none"> <li>• Introduction to IDE</li> <li>• Components of IDE</li> <li>• Linker</li> <li>• Debugger</li> <li>• Keil uVision IDE</li> <li>• Proteus Simulator</li> </ul> <p><b><u>Inside 8051</u></b></p> <ul style="list-style-type: none"> <li>• Block Diagram</li> <li>• Inside AT89C51</li> <li>• AT89C51 Basic Components</li> <li>• Important Pins</li> <li>• On-Chip Internal RAM</li> </ul> <p><b><u>GPIO (General Purpose Input Output)</u></b></p> <ul style="list-style-type: none"> <li>• Exploring the Capabilities of On-Chip Resources Programming for I/O Ports</li> <li>• Pin Diagram: AT89C51</li> <li>• Registers</li> <li>• Pin Description</li> <li>• Port 3 Alternate Functions</li> </ul> <p><b><u>Port Programming Ports/Pin Basic Interface</u></b></p> <ul style="list-style-type: none"> <li>• LED Interfacing</li> <li>• Switch Interfacing</li> <li>• Keypad</li> <li>• LED</li> <li>• LCD</li> <li>• Sensor ,Relay</li> </ul>

# Embedded System Design

## Course Structure for 3<sup>rd</sup> year only

Digital Design - Advanced (20 Hrs ) Module -4	Embedded System - Basic -2 ( 20 Hrs ) Module -5	Embedded System - Advanced (20 Hrs ) Module -6	Embedded System Advanced Interfaces (40 Hrs) Module -7
<b>Digital Electronics</b> <ul style="list-style-type: none"> <li>Advanced Digital Topic wrt to written test and Interview.</li> <li>FSM</li> <li>Counter</li> <li>Register</li> <li>FIFO</li> <li>Timing</li> <li>Fundamental (STA)</li> <li>Working on Linux Environment.</li> <li>Scripting - TCL</li> </ul>	<ul style="list-style-type: none"> <li>ADC</li> <li>DAC</li> <li>Memory Card</li> <li>RTC</li> <li>Motor</li> <li>EEPROM</li> </ul>	<ul style="list-style-type: none"> <li>16 /32 Bit Architecture and its working on all basic interfaces.</li> <li>Real Time Application/Projects based on TI or Renesas Platform depend on the availability of vendor resources.</li> </ul>	<ul style="list-style-type: none"> <li>Ethernet</li> <li>USB</li> <li>RTOS</li> <li>LINUX Device Driver</li> <li>I2C</li> <li>SPI</li> <li>UART</li> <li>CAN</li> <li>LIN</li> <li></li> </ul>

# Embedded System Design

## Course Structure for 4<sup>th</sup> year only

Wireless Interface - Module (40 Hrs) - Module 8.	Project -1 (60 hrs ) Module -9	Project -2 (60 Hrs ) Module -10	Analog Design - Advanced (20 Hrs ) Module -4(Sub)
<ul style="list-style-type: none"> <li>2.4 GHz (RF) ISM band using ZIGBEE Protocol Stack</li> <li>IOT (Internet on Things)</li> <li>IPV6 base stack</li> </ul>	Project based on Embedded Application	Project Based on IOT Application	<b>Analog Electronics</b> <ul style="list-style-type: none"> <li>MOSFET Fundamental</li> <li>Fabrication Process.</li> <li>Analog Fundamental</li> <li>CMOS Inverter Fundamental</li> <li>Differential Amplifier</li> </ul>