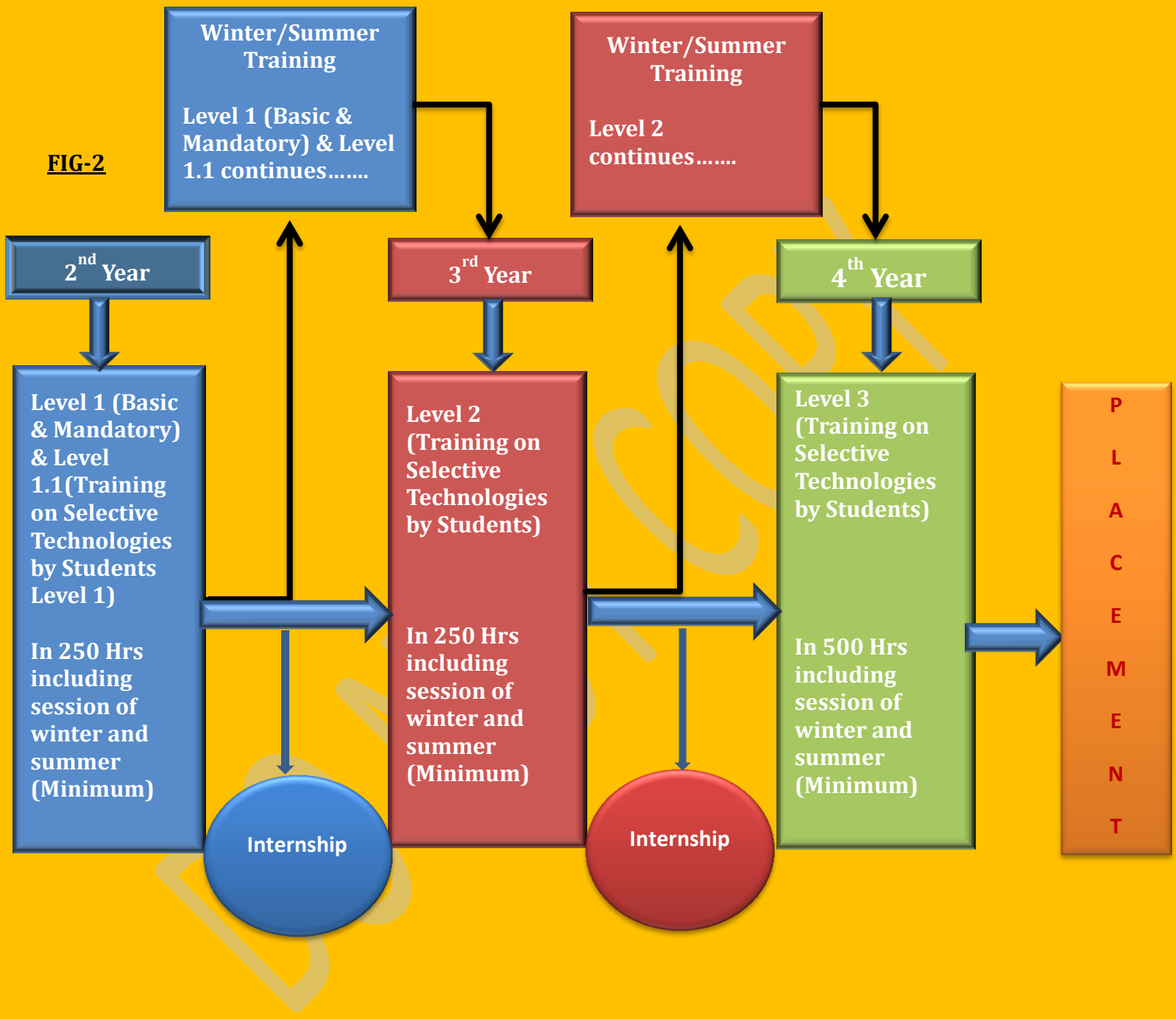
Method We follow- How to Get Entry Pass in SEMICODUCTOR Industries for 2nd year engineering students

FIG-2



ASIC Schematics Design & Layout

Course Structure for 2nd year only

Analog (10 Hrs) Module-1	Digital (20 Hrs) Module -2	Programming (50 Hrs) Module -3	FPGA Architecture (20 Hrs) Module -4

• RLC
• KCL/KVL
• Semiconductor Devices Fundamental
• Layout Concept
  ○ Electromigration
  ○ ESD
  ○ Sheet Resistance
  ○ Coupling Capacitance fundamental
	Digital Electronics
	• Boolean Algebra
	• Karnaugh Map
	• Logic Gates
	• Numbers system
	• Combinational Circuits
	• Sequential Circuits
	• FSM
	• Tutorial
	• HANDS ON (All gates, combinational and sequential circuit's simulation on Xilinx ISE Design and Vivado Design Suite).
	• Project using Schematics – CRC, Parity Checker, Boot Multiplier, FIFO and Memory etc.
		Verilog
		• Introduction Module
		• Data Types and test Bench
		• Data Flow and Test Bench.
		• Gate level and Test Bench.
		• Procedural Blocks and Test Bench.
		• Language Operator
		• Coding Technique.
		• Synthesis wrt to coding.
		• Optimization wrt to coding.
		• Hands on Synthesizable coding technique.
		• Project – Simulation based project like FIFO etc. and HW based Project like Display and LED control on XILINX Artix 7 board.
			Module D-10 Hours-FPGA
			• CLB architecture.
			• LUT architecture.
			• Slices.
			• Wide Multiplexer.
			• I/O Bank Structure.
			• Clock Managers.
			• CMT/PLL (Virtex 6).
			• Block RAM Memories.
			• DSP Slices.
			• Working on FPGA Spartan 6 and Artix 7 Development board with real time project.
			•

ASIC Schematics Design & Layout

Course Structure for 3rd year only

Analog Design and Layout Fundamental (40 Hrs) Module -5	Scripting (30 Hrs) Module -6	Design Digital (25 Hrs) Module -7
• MOSFET Fundamental • Fabrication Process and Layout Concept. • Analog Fundamental • CMOS Inverter Fundamental • Differential Amplifier	UNIX • Basic of UNIX, how different from Windows. • Introduction of SHELL. • File and Directories. • Home Directories Introduction and .cshrc file formation. • Basic Commands- cp,mv,rm,touch,which, mkdir,cat • UNIX sed , cut ,awk,grep (regex),tr commands. • BASH shell scripting, usage of loops, arguments, array.	• Advanced Digital Topic wrt to written test and Interview. FSM Counter Register FIFO • Timing Fundamental (STA)

ASIC Schematics Design & Layout

Course Structure for 4th year

Scripting (50 Hrs) Module -9	Analog Design (75 Hrs) Module -10	Layout – (75 Hrs) Module -11	Project Module -12
• TCL :The command and topics covered in Tcl are • Set ,Puts • String cmd & its various options • List and its various options • Tcl procedures- return,non return, args,optional arguments etc. • file handling:- open & close • file command and its various options	• OPAMPS & its Design Concept	• Standard Cell Layout • FULL Custom Analog Layout Concept.	• Single Stage Differential OPAMPS Design. • Two Stage OPAMPS • Level Shifter