Code 5200

PRINTED CIRCUIT BOARD DESIGNING

Teaching Schedule Per Week			Progressive Assessment		Examination Schedule (Marks)			
					Theory		Practical Ex.	Total
Lectures	Practical	Credits						
1	4	5	-	50	-	-	100	150

Pre-requisite	Source
Nil	Med.

Semester	Theory	Test	Total	TW	PR	Gr Total
	—	—	—	50	100	150

Rationale:-

COURSE CONTENTS	Hrs	Mks
	4	15
1. PCB BASICS: PCB – what & why, types of PCB's materials – electrical & mechanical considerations, board thickness & tolerance.	4	25
2. SCHEMATIC GENERATION: Creating symbols of different components, study of different packages used, getting components from component library, creating a schematic diagram, generating a netlist.	4	30
3. FOOTPRINT GENERATION: Reading datasheets, size & space consideration for mounting different components & heat sinks, consideration for drill hole sizes, pad sizes, through holes, keep out area for components Creating footprints for different components. Hole drilling consideration.	4	30
4. LAYOUT DESIGN: Board size and shape, component placements, power plane, track width & length, auto routing & manual routing spacing and alignment of tracks, gerber data files and formats, Design rule checks, Generating bill of materials.		
Total	16	100

PRACTICAL:

1. Reading datasheets
2. Generating a schematic
3. Creating & reading a netlist.
4. Generating footprints
5. Generating the board
6. Placing the components
7. Generating layout
8. Generating Bill of materials.

PROJECT:

The students will be given a project and they would be assessed at the term end based on their successfu8l completion of the project.