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Course code: Course Title	Course Structure			Pre-Requisite
	L	T	P	
EE106: PCB Fabrication and Testing	1	0	2	NIL

Course Objective: The objective of the course is provide a succinct introduction on fabrication of PCB.

S. No	Course Outcomes (CO)
CO1	Describe the basics of PCB design.
CO2	Apply modern tools and demonstrate skills for designing PCB.
CO3	Evaluate and test a PCB.
CO4	Apply software and hardware for PCB Design.

S. No	Contents
UNIT 1	Introduction: Electronic components (Active and Passive), Need for PCB Design, PCB materials and documentation, Types of PCB's: Single layer, Multilayer.
UNIT 2	Introduction to PCB Design Tools: Altium, ORCAD, Proteus.

UNIT 3	PCB Design: IPC standards for schematic, Design Rules for analog circuits, digital circuits, and power electronics applications.
UNIT 4	PCB fabrication process: Printing the design, etching, drilling, interconnecting, soldering and de-soldering process, component mounting, PCB testing, photolithography process, screen printing, chemical etching.
UNIT 5	PCB Design Practices: Sample PCB Design, PCB designing of Electronics Projects, PCB designing of embedded systems, PCB designing of power supplies.

REFERENCES

S.No.	Name of Books/Authors/Publishers	Year of Publication / Reprint
1	Printed Circuits Handbook; C. F. Coombs, H. Holden, McGraw-Hill Education, 6th edition.	2007
2	Complete PCB Design Using OrCAD Capture and PCB Editor; K. Mitzner, Newnes (an imprint of Butterworth-Heinemann Ltd).	2009
3	Signal Integrity Issues and Printed Circuit Board Design; D. Brooks, Prentice Hall.	2012
4	Fundamentals of Layout Design for Elctronics Circuits; J. Lienig, J. Schieble, Springer.	2020
5	Generic Standard for Printed Board Design, IPC -2221A; IPC-2221 Task Group (D-31b).	2022
6	Fundamentals of Microfabrication: : The Science of Miniaturization; M. J. Madou, CRC Press.	2002

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