

**Course Outcomes & CO-PO-PSO Mapping and Justification**

Subject	Analog And digital Electronics	17CS32
<b>COURSE OUTCOMES:</b>		
CO No.	On completion of this course, students will be able to:	Cognitive Level
17CS32.1	Understand the concepts of JFETs, MOSFETs, BJT and op-amps.	L2 Understand
17CS32.2	Analyze Combinational Logic circuits, Simplification of Algebraic Equations using Karnaugh Maps and Quine McClusky Techniques.	L4 Analyze
17CS32.3	Construct Digital multiplexers, Adders and Subtractors, Binary Comparators, Latches and Master-Slave Flip-Flops.	L3 Apply
17CS32.4	Analyze Synchronous and Asynchronous Sequential circuits	L4 Analyze
17CS32.5	Understand registers and Counters, A/D and D/A converters.	L2 Understand

**CO-PO-PSO MAPPING**

CO No.	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
17CS32.1	2	1	2	-	-	-	-	-	-	-	-	2	-	-	2
17CS32.2	3	2	2	-	-	-	-	-	-	-	-	2	-	-	2
17CS32.3	3	1	3	-	-	-	-	-	-	-	-	2	-	-	2
17CS32.4	1	2	2	-	-	-	-	-	-	-	-	2	-	-	2
17CS32.5	1	1	1	-	-	-	-	-	-	-	-	2	-	-	2
<b>Avg. Mapping</b>	<b>2.0</b>	<b>1.4</b>	<b>2.0</b>	-	-	-	-	-	-	-	-	<b>2.0</b>	-	-	<b>2.0</b>

**CO-PO-PSO JUSTIFICATION**

<b>CO No.</b>	<b>PO/PSO</b>	<b>CL</b>	<b>Justification</b>
17CS32.1	PO1	2	Moderately mapped as students can able to gain the knowledge on JFETs, MOSFETs, BJT and op-amps.
	PO2	1	Slightly mapped as students will be able to analyze the Operational Amplifier Application Circuits.
	PO3	2	Moderately mapped as students will be able to design Biasing on JFETs, MOSFETs and BJT.
	PO12	2	Moderately mapped as students will be able to apply the concept of Oscillator, JFETs, MOSFETs and BJT real world problems.
	PSO3	2	Moderately mapped as students will be able to apply the concept of Diodes, oscillators ,JFETs, MOSFETs and BJT in embedded systems.
17CS32.2	PO1	3	Strongly mapped as students can able to gain the knowledge on logic design and Basic Mathematics knowledge such as Boolean algebra, the characteristics equation for sequential circuits using flip flop Boolean equations for SOP and POS, entered variable Mapping and Q-M method.
	PO2	2	Moderately mapped as students can able to analyze a given problem statement for Kmaps and Quine Mccluskey to simplify and design logic circuits.
	PO3	2	Moderately mapped as students can able to design Boolean equations for SOP and POS expressions , Entered variable Mapping and Q-M method.
	PO12	2	Moderately mapped as students can able to apply the concepts of Kmaps in digital computers.
	PSO3	2	Moderately mapped as students can able to analyze the fundamentals of SOP and POS for designing logic circuits in digital computers.
17CS32.3	PO1	3	Strongly mapped as students need the knowledge of combinational circuits such as multiplexers, adders ,subtractors and Flipflops in design of digital circuits
	PO2	1	Slightly mapped as students able to analyze a given problem statement for combinational circuit using Boolean algebra and Kmaps as a tool to simplify the logic circuits.
	PO3	3	Strongly mapped as students able to design a given problem statement for combinational circuit using Boolean algebra and Flipflops as a tool.
	PO12	2	Moderately mapped as students can able to analyze the concepts learnt of combinational circuit in continuing professional development and new developments.
	PSO3	2	Moderately mapped as students can able to analyze the fundamentals combinational circuit for writing the programs to build basic application.

17CS32.4	PO1	1	Slightly mapped as students need the knowledge of Synchronous and Asynchronous Sequential circuits in design of digital circuits
	PO2	2	Moderately mapped as students able to analyze a given problem statement for Synchronous and Asynchronous Sequential circuits and VHDL as a tool to simplify the logic circuits.
	PO3	2	Moderately mapped as students able to design a given problem statement for Synchronous and Asynchronous Sequential circuits and VHDL as a tool.
	PO12	2	Moderately mapped as students can able to analyze the concepts learnt of Synchronous and Asynchronous Sequential circuits using HDL in continuing professional development and new developments.
	PSO3	2	Moderately mapped as students can able to analyze the fundamentals of sequential circuit in HDL for writing the programs to build basic application.
17CS32.5	PO1	1	Slightly mapped as students need the knowledge of Counters, Registers and Convertors to apply in digital computers.
	PO2	1	Slightly mapped as students able to analyze a given problem statement for Counters , Registers and Convertors using Flip flops.
	PO3	1	Slightly mapped as students able to design a given counters, registers and Convertors using Flipflops.
	PO12	2	Moderately mapped as students can able to analyze the concepts learnt of Counters, Registers and Convertors in continuing professional development and new developments.
	PSO3	2	Moderately mapped as students can able to analyze the fundamentals of sequential circuit for writing the programs to build basic application.

**Prepared by**

**HoD**

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