



B. P. Poddar Institute of Management & Technology
Department of Electronics & Communication Engineering
Academic Year: 2024-2025



LESSON PLAN

Name of the faculty : Ramesh Kumar

Year: 2nd

Course Name: Microprocessor & Microcontroller

Branch & Section: ECE (Sec-A)

Semester: 4th

Course Code: EC403

L. No.	Topics to be Covered	Books	Teaching Aids	Teaching Methodology
L1	Introduction of course CO,PO,PSO, Introduction about Course	-	PPT	lectures
L2	Overview of microcomputer systems and their building blocks, Microprocessors 8085 Pin description,	T1, T3	Green board, PPT	lectures, discussions
L3	Microprocessors 8085 memory,	T1, T3	Green board, PPT	lectures, discussions
L4	Microprocessors 8085 address/data line	T1, T3	Green board, PPT	lectures, discussions
L5	Addressing modes	T1, T2, T3	Green board, PPT	lectures, discussions
L6	I/O Interfacing: Memory and I/O interfacing techniques.	T1, T2, T3, T4	Green board, PPT	lectures, discussions
L7	Concepts of Interrupts	T1, T3	Green board	lectures, discussions
L8	Direct Memory Access (DMA),	T1, T3	Green board	lectures, discussions
L9	Instruction set: Data transfer, arithmetic, logical, and control instructions.	T1, T3	Green board, PPT	lectures, discussions
L10	8085 Assembly Language Programming	T1, T3	Green board, PPT	lectures, discussions, Quiz
L11	Instruction sets of microprocessors with examples of 8086	T1, T3	Green board, PPT	lectures, discussions
L12	8086 Assembly Language Programming	T4	Green board, PPT	lectures, discussions, Quiz
L13	Interfacing with peripherals- timer,	T4	Green board, PPT	lectures, discussions
L14	Parallel Communication Interface: 8255 PPI, interfacing with 8085	T1, T3	Green board, PPT	lectures, discussions
L15	Serial Communication Interface: 8251 USART, interfacing and programming	T1, T3	Green board, PPT	lectures, discussions, Quiz
L16	A/D and D/A converters	T1, T3	Green board, PPT	lectures, discussions
L17	Arithmetic coprocessors	T1, T3	Green board, PPT	lectures, discussions

L18	System level interfacing design	T1, T3, T4	Green board, PPT	lectures, discussions
L19	Concepts of virtual memory	T1, T3	Green board	lectures, discussions
L20	Cache memory	T1, T3	Green board	lectures, discussions
L21	Advanced coprocessor architectures- 286	T1, T3, T4	Green board, PPT	lectures, discussions
L22	Advanced coprocessor architectures- 486	T1, T3, T4	Green board, PPT	lectures, discussions
L23	Advanced coprocessor architectures- Pentium; Comparisons	T1, T3, T4	Green board, PPT	lectures, discussions
L24	Microcontroller: Introduction to 8051 architecture, SFRs, and I/O ports.	R1	Green board, PPT	lectures, discussions
L25	Instruction set and addressing modes: Assembly programming for 8051.	T1, R1	Green board, PPT	lectures, discussions
L26	Microcontrollers 8051 systems- programming 1	T1, R1	Green board, PPT	lectures, discussions, Quiz
L27	Introduction to RISC processors;	R1,T1	Green board, PPT	lectures, discussions
L28	ARM microcontrollers interface design.	R2	Green board, PPT	lectures, discussions
L29	Comparison of Microprocessor and Microcontroller: PIC, ARM, and their applications.	R1, R2, R3	Green board, PPT	lectures, discussions

Text Books:

T1: R. S. Gaonkar, Microprocessor Architecture: Programming and Applications with the 8085/8080A, Penram International Publishing, 1996

T2: D A Patterson and J H Hennessy, "Computer Organization and Design The hardware and software interface. Morgan Kaufman Publishers.

T3: Microprocessors and Microcontrollers by N.Senthil Kumar, M.Saravanan, and S.Jeevananthan, Oxford University Press

T4: Keneth Ayala, keneth. J. Ayala- The 8086 Microprocessor: Programming and interfacing the PC-West Pub

Reference Books:

R1: The 8051 Microcontroller and Embedded Systems: Muhammad Ali Mazidi.

R2: ARM System Developer's Guide: Andrew N. Sloss, Dominic Symes.

R3: Microcontroller Programming and Interfacing: Steven F. Barrett.

R4: PIC Microcontroller Projects in C: Dogan Ibrahim.

Web References:

WR1: NPTEL Course on Microprocessors and Microcontrollers: <https://nptel.ac.in/courses/108105102>

WR2: YouTube Tutorial on 8086 Programming: <https://www.youtube.com/watch?v=K1FkQox9RsA>