

Lesson Plan & Work-done Diary for AY: 2025-26, EVEN Semester

Course with Code: Microcontrollers–BCS402				Faculty: Mr. J N Karthik			Semester & Section: 4 th	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-1								
1		Introduction to the course, Bridge Course: Microprocessors versus Microcontrollers	Chalk & Talk	1				
2		Bridge Course: Embedded systems	Chalk & Talk, PPT	2				
3		ARM Embedded Systems: The RISC design philosophy, The ARM Design Philosophy	Chalk & Talk	3				
4		Embedded System Hardware	PPT	4				
5		EmbeddedSystem Software.	PPT	5				
6		ARM Processor Fundamentals: Registers	Chalk & Talk, PPT	6				
7		Current Program Status Register	Chalk & Talk, PPT	7				
8		Pipeline	Chalk & Talk, PPT	8				
9		Exceptions, Interrupts, and the Vector Table	Chalk & Talk, PPT	9				
10		Core Extensions, Revision & Quiz	Chalk & Talk, MS Forms	10				

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MODULE-2								
11		Introduction to the ARM Instruction Set: DataProcessing Instructions	Chalk & Talk, PPT	1				
12		Data Processing Instructions	Chalk & Talk, PPT	2				
13		Branch Instructions	Chalk & Talk, PPT	3				
14		Software Interrupt Instructions	Chalk & Talk, PPT	4				
15		Program Status Register Instructions	Chalk & Talk, PPT	5				
16		Coprocessor Instructions	Chalk & Talk, PPT	6				
17		Loading Constants	Chalk & Talk, PPT	7				
18		Revision, Quiz	Chalk & Talk, PPT, MS forms	8				

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MODULE-3								
19		C Compilers and Optimization: Basic C DataTypes	Chalk & Talk, PPT	1				
20		C Looping Structures	Chalk & Talk, PPT	2				
21		Register Allocation	Chalk & Talk, PPT	3				
22		Function Calls	Chalk & Talk, PPT	4				
23		Pointer Aliasing	Chalk & Talk, PPT	5				
24		Floating Point	Chalk & Talk, PPT	6				
25		Portability Issues	Chalk & Talk, PPT	7				
26		Revision, Quiz	Chalk & Talk, PPT, MS Forms	8				

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MODULE-4								
27		Exception and Interrupt Handling: Exception handling, ARM processor exceptions and modes, Vector Table	Chalk & Talk, PPT	1				
28		Exception priorities, Link register offsets	Chalk & Talk, PPT	2				
29		Interrupts, Assigning interrupts, Interrupt latency	Chalk & Talk, PPT	3				
30		IRQ and FIQ exceptions, Basic interrupt stack design and implementation.	Chalk & Talk, PPT	4				
31		Firmware: Firmware and bootloader	PPT	5				
32		ARM firmware suite, Red Hat redboot	PPT	6				
33		Example: Sandstone, Sandstone Directory Layout, Sandstone Code Structure	PPT	7				
34		Revision & Quiz	Chalk & Talk, PPT, MS forms	8				

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MODULE-5								
35		CACHES: The Memory Hierarchy and Cache Memory, Caches and Memory Management Units	Chalk & Talk, PPT	1				
36		CACHE Architecture: Basic Architecture of a Cache Memory, Basic Operation of a Cache Controller, The Relationship between Cache and Main Memory	Chalk & Talk, PPT	2				
37		Set Associativity	Chalk & Talk, PPT	3				
38		Write Buffers, Measuring Cache Efficiency	Chalk & Talk, PPT	4				
39		CACHE POLICY: Write Policy— Writeback or Writethrough	Chalk & Talk, PPT	5				
40		Cache Line Replacement Policies	Chalk & Talk, PPT	6				
41		Allocation Policy on a Cache Miss, Coprocessor 15 and caches	Chalk & Talk, PPT	7				
42		Revision & Quiz	Chalk & Talk, PPT, MS Forms	8				

	Activity	Planned	Actual	Remarks
1	Theory Classes	40		
2	Assignments/ Quizzes/ Self-study	5		
3	Tutorials/ Extra classes	2		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	70%		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	