

JK LakshmiPat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, December 2025
 B. Tech. (ECE), Semester VII, 2025-26

Roll No.....

EE1408: Microprocessor and Microcontroller

Time: 3 hours

Max. Marks: 40

- Do not write anything other than your roll number on question paper.
- Mention all the assumptions for your answers clearly.
- The student, before starting to write the solutions, should please check the question paper for any discrepancy and ensure that they have been delivered the question paper of right course code.
- Total 6 Questions are there.

Q1.	Explain the process of Multiplication of two 8 bit numbers using 8051 micro controller.	5 (CO 4)
Q2	a Explain the functional pin diagram of 8051 Microcontroller	5 (CO 3)
	b Write a program to add two 8 – bit numbers using 8051	5 (CO 4)
Q3	Why ARM is a called as RISC based processor. Discuss the low power modes available in ARM Cortex-M processors	2+3 (CO 1)
Q4.	a Apply the concept of CPSR mode bits to show how the processor switches to IRQ/FIQ mode during an interrupt.	4 (CO 2)
	b Describe how the processor uses the vector table to handle exceptions. Also analyze the sequence of actions taken by the ARM Cortex-M during exception entry and return.	4 (CO 2)
Q5.	I want to perform the following task using a ARM based evaluation board, provide the instructions to perform the given task?	6 (CO 2,3)
	i) Multiplication of two number with result will be added to a number accumulated in accumulator.	
	ii) Subtraction of two number with borrow	
	iii) Exclusive OR operation of two inputs	
	iv) Immediately transfer/move a 16 bit data	
Q6.	Describe how pipelining improves the throughput of ARM processors. Compare the pipelining approach of ARM Cortex-M (5-stage) with ARM Cortex-A (6 stage) and discuss the performance implications	6 (CO 1)