

**ROLL NO :**

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Total number of pages:[ 2]

**B.Tech. || ECE || 7<sup>th</sup> Sem.**

**Embedded Systems**

**Subject Code :BTEC-701**

**Paper ID : \_\_\_\_\_**

**Time allowed: 3 Hrs**

**Max Marks: 60**

**Important Instructions:**

- All Questions are Compulsory.
- Assume any missing data

<b>Q. 1.</b>	<b>Short Answer Questions.</b>
(a)	What are different processors in ARM family? Brief about their basic functions.
(b)	What are different I/O ports of ARM processor? How they are used?
(c)	Differentiate between JTAG and I <sup>2</sup> C interface?
(d)	Describe at least two instructions using interrupts in ARM.
(e)	What do understand by load and store operations? Which instructions in ARM are used for these tasks?
(f)	What do you understand by integrated development environment? Explain with the help of example.
(g)	What are pointers? How they are used in C/C++?
(h)	What do you mean by BIOMETRICS? Explain.
(i)	What is the use of RFID modules? Brief some applications of RFID.
(j)	Differentiate between integer and floating point arithmetic.

**PART B (5×8)**

<b>Q. 2.</b>	What are architectural features of ARM processors? Draw and explain its internal architecture.	OR	
	What do understand by interrupts and interrupt handling? How they are used in ARM processors?		
<b>Q. 3.</b>	Define addressing modes? List and explain the different addressing modes of ARM processors with the help of example instructions.		

	<p>OR</p> <p>What are different types of instructions of ARM processors? Explain with the help of examples.</p>	
Q. 4.	<p>What is significance of registers allocation? How is it handled in ARM processors programming?</p> <p>OR</p> <p>Explain the programming for structures, conditional instructions and loops in embedded C programming.</p>	CO3
Q. 5.	<p>What is the use of ADC and DAC in embedded systems development? Explain their interfacing with the ARM processors.</p> <p>OR</p> <p>What are ZIGBEE modules? What are their applications? Explain their interfacing with the ARM processor.</p>	CO4
Q. 6.	<p>What are different types of debugging tools used for the embedded systems development? Explain in detail.</p> <p>OR</p> <p>What are different types of pins on LCD display module? Explain its interfacing and programming with the ARM processor?</p>	CO4