BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: B.TECH **SEMESTER : VII**
BRANCH: EEE **SESSION : MO/2025**

SUBJECT: EE573 EMBEDDED SYSTEMS AND APPLICATIONS

TIME: 02 HOURS **FULL MARKS: 25**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates**

			CO	BL
Q.1(a)	Give a practical example of embedded system? Draw its block diagram	[2]	[1]	[1]
Q.1(b)	Cite one example of general-purpose processor and application application-specific processor?	[3]	[1]	[1]
Q.2(a)	Explain the role of ROM in an embedded system using a suitable example?	[2]	[2]	[2]
Q.2(b)	Differentiate between NOR Flash Memory and NAND Flash Memory.	[3]	[2]	[2]
Q.3(a)	Apply Daisy-Chain connection for SPI protocol and draw a schematic for communication between one master and three slave devices.	[2]	[3]	[3]
Q.3(b)	Apply CPOL=0 and CPAH =0, and draw timing diagrams of MOSI and MISO pin while sampling 0xA5H and shifting out 0xBAH.	[3]	[3]	[3]
Q.4(a)	Analyze the role of every bit in SPSR register for SPI Communication?	[2]	[4]	[4]
Q.4(b)	Analyze the role of SPCR, and SPDR register by writing an embedded C-code for SPI communication	[3]	[4]	[4]
Q.5(a)	Design a block diagram to sample an audio signal with 100kS/sec sampling using TMS320C6713	[2]	[5]	[5,6]
Q.5(b)	Evaluate the suitability of McASP and McBSP in TMS320C6713 for audio signal processing in terms of execution time?	[3]	[5]	[5,6]

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