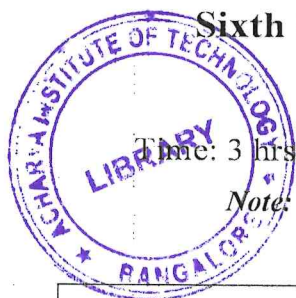


CBCS SCHEME

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BEE613B



Sixth Semester B.E./B.Tech. Degree Examination, June/July 2026

Embedded System Design

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Define an Embedded System. Compare between Embedded Systems and General Computing Systems.	08	L2	CO1
	b.	Compare Harvard and Von Neumann Architecture.	06	L2	CO1
	c.	Explain classification of Embedded Systems based on Generation.	06	L2	CO1
OR					
Q.2	a.	Give an outline on Program Storage Memory.	08	L2	CO1
	b.	Explain the purpose of Embedded Systems based on Data Collection and Data Communication.	06	L2	CO1
	c.	Explain the elements of an Embedded Systems.	06	L2	CO1
Module – 2					
Q.3	a.	Explain Operational Quality Attributes.	08	L2,5	CO2
	b.	Explain Automotive Communication Buses.	06	L2,5	CO2
	c.	Give an outline on Tools and Platform providers.	06	L2	CO2
OR					
Q.4	a.	Explain the functional block diagram of washing machine.	10	L2,5	CO2
	b.	Explain the non – operational quality attributes.	10	L2,5	CO2
Module – 3					
Q.5	a.	Discuss the fundamental issues in hardware – software co – design.	06	L5	CO3
	b.	Explain De-coder used in embedded systems.	06	L2,5	CO3
	c.	Elaborate VLSI and Integrated Circuit Design.	08	L6	CO3
OR					
Q.6	a.	Explain Multiplexer and De – multiplexer with pin diagram and truth – table.	10	L2,5	CO3
	b.	Explain Data Flow Graph (DFG) Model and Control Data Flow Graph (CDFG) Model in an Embedded System.	10	L2,5	CO3
Module – 4					
Q.7	a.	Elaborate the conversion process of Assembly language to machine language.	10	L6	CO4
	b.	Explain : •LST file, •OBJ file, •MAP file with syntax used in Embedded Systems.	10	L2,5	CO5
OR					
Q.8	a.	Give an outline on Emulators and Debuggers.	10	L2	CO5
	b.	Explain the conversion process of high level language to machine language with block diagram.	10	L2,5	CO4
Module – 5					
Q.9	a.	Discuss the operating system architecture in Embedded System.	10	L2,5	CO6
	b.	Explain the important features of Real Time Operating Systems (RTOS)	10	L2,5	CO6
OR					
Q.10	a.	Elaborate process states and state transition representation with neat flow charts.	10	L6	CO6
	b.	Explain the concept of Threads in RTOS.	10	L2,5	CO6
