Code No: **R42102**   **R10**   **Set No. 1**

IV B.Tech II Semester Supplementary Examinations, April - 2018
EMBEDDED SYSTEMS
(Electronics and Instrumentation Engineering)

Time: 3 hours   **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1	a)	List the various application areas of embedded systems and give examples for each application area?	[8]
	b)	Distinguish between Harvard and Von-Neumann processor/controller architecture?	[7]
2	a)	Discuss the characteristics of embedded system.	[7]
	b)	Explain about application specific embedded system with suitable example?	[8]
3	a)	What is EDA tool? Explain the role of EDA tools in embedded system design?	[7]
	b)	Explain the role of decoders in embedded hardware development. Draw the circuit diagram for interfacing a 3-bit binary decoder with 8051.	[8]
4	a)	Explain the different embedded firmware design approaches in detail.	[8]
	b)	List out the advantages of assembly language based embedded firmware development?	[7]
5	a)	Explain *Thread context switch* and the various activities performed in thread context switching for user level and kernel level threads.	[8]
	b)	What is kernel space and user space? How is kernel space and user space interfaced?	[7]
6	a)	What is computational model? Explain its role in hardware software co-design.	[8]
	b)	Explain the concept of In System Programming? What is the difference between ISP and IAP?	[7]
7	a)	Explain the importance of boundary scan.	[7]
	b)	What are the different techniques available for embedded firmware debugging? Explain them in detail.	[8]
8	a)	Write short notes on quality assurance and testing of the embedded system design.	[8]
	b)	Explain the important features of compliers and linkers that are relevant to embedded system.	[7]