B.TECH SEM – VII (2007 COURSE) (COMPUTER ENGG.) : SUMMER - 2018

SUBJECT : ELECTIVE – I : b) EMBEDDED SYSTEM

Day : **Friday** | Time : **02.30 PM TO 05.30 PM**
Date : **25/05/2018** | **S-2018-2771** | Max. Marks : 80

N. B. :

1) **Q. No. 1** and **Q. No. 5** are **COMPULSORY**. Out of remaining attempt **ANY TWO** questions from Section – **I** and Section – **II**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in the **SEPARATE** answer books.
4) Assume suitable data, if necessary.

SECTION - I

Q1	**a)**	List design challenges in Embedded system.	**(05)**
	b)	Classify interface synthesis in Embedded system.	**(05)**
	c)	Write the steps for safe design.	**(04)**
Q2	**a)**	Describe system synthesis models in Embedded system.	**(07)**
	b)	Describe the partitioning problem and different partitioning methods.	**(06)**
Q3	**a)**	What is interfacing? How mobile processor is interfaced with mobile camera?	**(07)**
	b)	Describe the CAN interface and state its specifications.	**(06)**
Q4	**a)**	List and explain Embedded system software development tools.	**(07)**
	b)	What is test case? Write test cases for testing a digital camera.	**(06)**

SECTION – II

Q5	**a)**	Distinguish between dataflow, structural and behavioral models of VHDL.	**(05)**
	b)	List basic syntax and semantics of Verilog.	**(05)**
	c)	Explain primitive fixed priority scheduling policy in RTOS.	**(04)**
Q6	**a)**	Illustrate the difference between concurrent and sequential execution of VHDL statements with suitable examples.	**(07)**
	b)	Describe the fundamental units of VHDL code in detail.	**(06)**
Q7	**a)**	What are the basic requirements of DSP system for processing high performance algorithms? Describe DSP framework for signal processing.	**(07)**
	b)	Explain how to implement TCP/IP protocol for embedded system on network.	**(06)**
Q8	**a)**	Illustrate the use of semaphores and timer functions for synchronizing the tasks as round robin time sliced schedule tasks in preemptive RTOS.	**(07)**
	b)	List the deadlock conditions. Describe the methods for deadlock prevention and avoidance.	**(06)**

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