Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

SEVENTH SEMESTER B.TECH. (INSTRUMENTATION & CONTROL ENGG.)

END SEMESTER EXAMINATIONS, DEC 2016/JAN 2017

SUBJECT: REAL TIME EMBEDDED SYSTEM [ICE 443]

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ANY FIVE FULL** questions.
- Missing data may be suitably assumed.

1A.	In a DSP processor what are the different rounding techniques involved when an arithmetic operation is performed	**4**
1B.	How VLIW processor works.	**3**
1C.	With timing diagram, explain write operation is performed in SRAM.	**3**
2A.	With a neat block diagram, explain OMAP architecture	**4**
2B.	Explain with help of a Finite state machine diagram how ROM wait state is handled by the processor?	**4**
2C.	List all the limitation of project loon	**2**
3A.	How are virtual and cache memory integrated? What is TLB and brief about its working?	**4**
3B.	With a neat diagram explain the execution of read operation in DRAM super cell and brief about its timing parameters	**4**
3C.	List all OSI layers.	**2**
4A.	What is page fault? Explain how page fault can be serviced?	**4**
4B.	What is context switching? List the overhead for the same in an OS. In a system how a context switching take place?	**5**
4C.	Write the expression for power consumption in CMOS (ignoring the leakage)	**1**
5A.	What is message based communication? Which protocol has message based communication? Explain about that protocol in detail.	**4**
5B.	Illustrate the working of Zigbee protocol.	**4**
5C.	List the difference between Zigbee and Bluetooth protocol	**2**
6A.	In dead line based scheduling policies explain the working of EDF, LDF and priority inversion with an example.	**8**
6B.	List the limitations of I2C protocol	**2**