M. TECH.-I (ELECTRONICS V.L.S.I.) (CBCS – 2015 COURSE) :

WINTER - 2017

SUBJECT: EMBEDDED SYSTEMS & PROCESSORS

Day: **Friday** Time: **11.00 AM TO 02.00 PM**

Date: **19/01/2018** Max. Marks: 60

W-2017-2782

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to **RIGHT** indicate full marks.
3) Draw neat labeled diagrams **WHEREVER** necessary.
4) Assume suitable data if necessary.
5) Both the sections should be written in **SEPARATE** answer books.

SECTION-I

Q.1 With a neat diagram, explain how you will interface LPC 2148 with keyboard. **(10)**

OR

Compare ARM 7, ARM 9, ARM 11 processors. **(10)**

Q.2 What is interrupt? What is the mechanism for servicing an interrupt? **(10)**

OR

What is the role of semaphore in solving shared data problem? What are the advantages and disadvantages of using semaphore? **(10)**

Q.3 Explain the following:- **(10)**

i) Kernel
ii) Scheduler
iii) Non- Preemptive kernel
iv) Preemptive kernel

OR

What is meant by task priority? State the difference between static and dynamic priority. **(10)**

SECTION-II

Q.4 Explain the memory organization of PSoC 3/5. **(10)**

OR

With reference to PSoC 3/5 architecture, explain:- **(10)**

i) Digital sub systems
ii) Analog sub systems

Q.5 With the help of neat diagram, explain interfacing of PSoC3/5 with UART **(10)**

OR

Develop DTMF dialer with the help of PSoC 3/5. **(10)**

Q.6 Explain inter task communication using µCOSII. **(10)**

OR

With reference to RTOS services, explain

i) Task management
ii) Time management

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