

SUBJECT: EMBEDDED SYSTEMS AND PROCESSORS

Day: -Friday  
Date: 07/12/2018

W-2018-3114

Time: 11.00 AM TO 02.00 PM  
Max Marks: 60

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**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answer the both sections should be written **SEPARATE** answer book.
  - 4) Assume suitable data if necessary.
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**SECTION-I**

**Q.1** With a neat diagram, show how you will interface SDI card to LPC 1768. (10)

**OR**

How will you interface LPC 1768 to two seven segment displays? Write a program in 'C' to display number 27. (10)

**Q.2** What are parameters of TCB of a task? Why should each task have distinct TCB? (10)

**OR**

How does a counting semaphore differ from mutex? How is it used? (10)

**Q.3** Process or task creation and management are the most important functions of the kernel. Why? (10)

**OR**

Compare two scheduling strategies for the real time scheduling- preemptive and round robin scheduling. (10)

**SECTION-II**

**Q.4** Explain the CPU subsystem of PSoC in detail. (10)

**OR**

Explain the concept of programmable/routing w.r.t. PSoC. (10)

**Q.5** What are the UDB components in PSoC. Discuss. (10)

**OR**

How will you interface PSoC 3/5 to LED? Write program also. (10)

**Q.6** What is RTOS? Explain RTOS  $\mu$ COS II. (10)

**OR**

Explain with suitable example, the inter task communication used in RTOS. (10)

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