

**M. Tech.-III (Electronics V.L.S.I.) (CBCS – 2015 Course) :**  
**SUMMER - 2019**

**SUBJECT: ELECTIVE-I: PROGRAMMABLE SYSTEM ON CHIP**

**Day:** Friday **Time:** 11.00 AM TO 02.00 PM  
**Date:** 17/05/2019 **S-2019-3475** **Max. Marks: 60**

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**N.B:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answer to both the sections should be written in **SAME** Answer book.
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**SECTION-I**

**Q.1** What do you mean by PSoC? Explain its applications and also compare (10)  
with conventional microcontroller.

**OR**

What do you mean by programmable routing and interconnections used (10)  
in PSoC?

**Q.2** Explain the architecture of following subsystems used in PSoC. (10)  
i) CPU Subsystem, ii) I/O Interface

**OR**

Draw and explain the architectural block diagram of PSoC5. What are (10)  
the differences between architectural features of PSoC5 and PSoC3?

**Q.3** Explain with neat diagram Memory Management in PSoC. (10)

**OR**

What are the limitations of PSoC? Also explain the improvements (10)  
needed in PSoC.

**SECTION-II**

**Q.4** Write short note on: (10)  
i) PSoC Interrupt Subsystem  
ii) Mixed Signal Architecture

**OR**

Explain the hardware and software components used in PSoC. (10)

**Q.5** Explain in detail the architecture of Timer and PWM in PSoC. (10)

**OR**

Write short on: (10)  
i) Universal Digital Block  
ii) Flash Temperature Sensor

**Q.6** Draw and explain the interfacing diagram of temperature sensors and (10)  
tachometer with PSoC.

**OR**

Design and implement following system using PSoC. (10)  
i) Continuous Time Signal Processing  
ii) Ultrasonic Vehicle Parking Assistance

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