M. TECH.-III (ELECTRONICS V.L.S.I.) (CBCS – 2015 COURSE) : SUMMER - 2018

SUBJECT: ELECTIVE-I: PROGRAMMABLE SYSTEM ON CHIP

Day: Tuesday **S-2018-3072** **Time:** 11.00 AM TO 02.00 PM
Date: 29/05/2018 **Max. Marks: 60**

N.B:

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in the **SEPARATE** answer book.

SECTION-I

Q.1 Explain and compare the features of PSoC1, PSoC2 and PSoC3 Families. **(10)**

OR

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

Q.2 With neat schematic, explain the architecture of PSoC5. Compare PSoC3 and PSoC5. **(10)**

OR

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

Q.3 Write a short note on "PSoC Designer Suit". **(10)**

OR

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

SECTION-II

Q.4 What are the hardware and software subsystems used in mixed signal architecture of PSoC. Explain each in detail. **(10)**

OR

Explain in detail PSoC Express. Design any mixed signal embedded system using PSoC express. **(10)**

Q.5 Explain the working of Universal Digital Block and Digital System Interconnect of PSoC with the help of neat diagram. **(10)**

OR

What are the differences between op-amp and programmable gain amplifiers? What is the use of switched capacitor in amplifiers? **(10)**

Q.6 Design and implement Data Acquisition and Control System using PSoC. **(10)**

OR

Explain in detail how SPI and UART is used for communication between two tasks. **(10)**

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