

S.D.E.

M.C.A. SEM - IV : SUMMER - 2018

SUBJECT: ELECTIVE – II: EMBEDDED SYSTEMS DESIGN & PROGRAMMING

Day : **Tuesday**
Date : **05/06/2018**

S-2018-4625

Time: **02.00 P.M. TO 05.00 P.M.**
Max. Marks: 80

N.B.:

- 1) Attempt **ANY FIVE** questions from Section – I and **ANY TWO** questions from Section – II.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** List and briefly discuss various applications of Embedded Systems. [10]
- Q.2** Explain the concept of “Target Hardware Platform” with respect to Embedded Systems. [10]
- Q.3** Discuss in brief the “Instruction Set” offered by 8051 micro-controller. [10]
- Q.4** What is Low-Level-Programming? Briefly discuss its importance with respect to Embedded Systems. [10]
- Q.5** How serial communication is performed using 8051 micro-controller? [10]
- Q.6** List and briefly discuss the Programming Languages used to develop Embedded Systems. [10]
- Q.7** Write short notes on **ANY TWO** of the following: [10]
- a) ADC
 - b) Delay Units
 - c) MCS – 51 Kit

SECTION – II

- Q.8** Discuss the following components of an embedded system in brief: [15]
- a) Memory
 - b) Crystal
- Q.9** Compare and differentiate between “micro-controller based embedded system design” vs. “micro-processor based embedded system design”. [15]
- Q.10** Write appropriate syntax and usage/purpose for following 8051 micro-controller instructions: [15]
- a) DEC
 - b) MOV
 - c) MUL
 - d) DIV
 - e) NOP

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