

**S.D.E.**

**M.C.A. SEM - IV : WINTER - 2017**

**SUBJECT : ELECTIVE – II: EMBEDDED SYSTEMS DESIGN & PROGRAMMING**

Day : **Friday**

Time : **02.00 P.M. TO 05.00 P.M.**

Date : **22/12/2017**

Max. Marks : 80

**W-2017-4434**

**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** What is an Embedded System? Discuss in detail. [10]
- Q.2** Differentiate between “Development Platform” and “Target Platform” with respect to embedded systems. [10]
- Q.3** Discuss in detail the “Registers” available in 8051 micro-controller. [10]
- Q.4** Why Assembly-Language is preferred to program embedded systems? Discuss in brief. [10]
- Q.5** How parallel communication is performed using 8051 micro-controller? [10]
- Q.6** Discuss the following terms in brief with respect to embedded systems: [10]  
a) Operating Systems  
b) Programming Languages
- Q.7** Write short notes on **ANY TWO** of the following: [10]  
a) Chip-Select Logic  
b) Application Specific Control Circuitry  
c) MCS – 51 Kit

**SECTION – II**

- Q.8** Explain the following components of an embedded system in brief: [15]  
a) Latches and Buffers  
b) Reset Circuit
- Q.9** Discuss in detail the design and programming of micro-processor based Embedded Systems. [15]
- Q.10** Write appropriate syntax and usage/purpose for following 8051 micro-controller instructions: [15]  
a) SUBB  
b) NOP  
c) JNZ  
d) POP  
e) RET

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