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B. Tech. 7th Semester (EEE)
Examination, December-2015

MICROCONTROLLERS AND EMBEDDED SYSTEM
Paper-EEE-413-F

Time allowed : 3 hours] [Maximum marks : 100

- Note :** (i) *Section-A (Q. No. 1) is compulsory.*
(ii) *Attempt four more questions from remaining four section (B, C, D and E) by selecting at least one question from each section.*

Section-A

1. (i) Explain the peripherals used for microcontrollers. 5
(ii) What do you mean by program memory considerations. 5
(iii) Explain the function of keyboard and Sensors in 8051 MCS. 5
(iv) Name and explain different I/O devices used in Embedded system. 5

Section-B

2. Differentiate between Embedded microcontrollers and External memory microcontrollers. Explain the different features of microcontrollers. 20
3. Explain microcontrollers memory types in detail. Differentiate between CISC and RISC. 20

Section–C

4. Explain the Architecture of PIC microcontroller in detail. 20
5. What do you mean by Addressing modes ? Explain CPU registers and Instruction set in detail. 20

Section–D

6. Explain the function of I/O ports, Internal RAM and Registers used in 8051 microcontrollers. 20
7. Is it possible to implement NOR and NAND operations through 8051 instruction set ? Justify your answer. 20

Section–E

8. Discuss the Case Study of an Embedded System for a Smart Card. 20
9. What do you mean by Embedded Systems. Classify the Embedded Systems. Explain different Hardware and Software used in the proper functioning of Embedded Systems. 20