

6E3205

Roll No. _____

Total No of Pages: **3**

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B. Tech VI Sem. (Main & Back) Exam. May. 2013

Computer Engg.

6CS5 Embedded System Design

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks: 24

Instructions to Candidates:

*Attempt any **five questions**, selecting **one question** from **each unit**. All questions carry **equal marks**. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.

1. _____

2. _____

UNIT - I

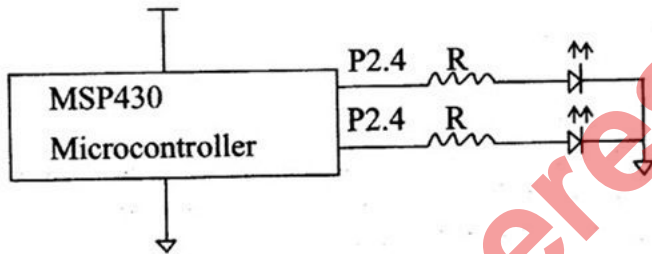
- Q.1 (a) What is embedded system? Explain what features should be in an embedded system. [8]
- (b) Why system designing is easy using embedded system? [8]

OR

- (a) Explain system- on- chip (SOC) in embedded system. [8]
- (b) What do you understand by hardware and software development environment in embedded system? [8]

UNIT – II

- Q.2 (a) What is RISC architecture? What features of MSP 430 make it to RISC? [8]
(b) Write a 'C' program for MSP 430 to ON the LED'S connected at P2.4 and P2.3. [8]



OR

- (a) What is I/O interfacing? Explain seven segment and stepper motor interfacing with MSP430. rtuonline.com [8]
(b) Discuss timers and counters of MSP430. [8]

UNIT – III

- Q.3 (a) How ARM processor is better for embedded system development? [8]
(b) Explain current program status register. [8]

OR

- (a) Explain pipeline stages in ARM processor. [8]
(b) Explain vector table of ARM processor. [8]

UNIT – IV

- Q.4 (a) Explain 8051 flag bits and register banks. [8]
(b) What is indexed addressing mode? Explain by a suitable example. [8]

OR

- (a) Explain architecture of 8051. [8]
(b) What is interrupt? Explain interrupt programming. [8]

UNIT - V

- Q.5 (a) What are the performance issues that affect the embedded system? [8]
(b) What is sleep mode? [8]

OR

- (a) How smoke detector system works? Give suitable block diagram. [8]
(b) How we can optimize CPU power? [8]
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