Register Number: ……..

M.E DEGREE EXAMINATIONS: JUNE/JULY 2013

Second Semester

EMBEDDED SYSTEMS

EST506: Embedded Control System

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. Mention the Functions of Address Lines?
2. What is Bit Masking?
3. What is Key Debouncing?
4. What is the necessity of dispatch table?
5. Draw the Structure of R/2R Ladder?
6. How is a particular Analog Channel Selected?
7. What is the advantage of Serial communication over Parallel communication?
8. Which are the Voltage Levels required in RS232?
9. Why the Driver is connected between the Controller and the Stepper Motor?
10. How can a Embedded controller be used to control the motor in Bidirectional way?

PART B (5 x 16 = 80 Marks)

11. a) Explain the functions of Ports with its schematic representation in detail

(OR)

b) With neat Block Diagram explain the operating modes of Programmable Peripheral Interface.

12. a) Explain the 4X4 Matrix Keyboard connections to Ports in detail and draw the flowchart of scanning method for key press Detection

(OR)

b) Explain the following in detail
   (i) ISR (5)
   (ii) IRQ (5)
   (iii) IVT (6)

13. a) Write a Embedded C Program to generate Triangle Wave and Saw tooth Wave using DAC

(OR)

b) Explain the Automatic digital data acquisition System with neat diagram

14. a) Explain in detail Asynchronous Serial communication and Data Framing

(OR)

b) Explain the Low Level Serial I/O mode and Buffered Serial I/O mode in detail.

15. a) A Switch is connected to pin P2.7.Write a C Program to monitor the status of SW and perform the following

(i).If SW=0,the Stepper motor moves clockwise

(ii).If SW=1,the Stepper motor moves counterclockwise

(OR)

b) Two Switches are connected to pins RD0 and RD1.Write a Embedded C program to monitor the status of both switches and perform the following

RD1	RD0	
0	0	DC motor move slowly(25% Duty Cycle)
0	1	DC motor moves moderately(50% Duty cycle)
1	0	DC motor moves fast(75% Duty Cycle)

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