

4-5-19  
**FULL TIME**

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B.E / B.Tech DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2019  
1 INFORMATION TECHNOLOGY BRANCH  
(REGULATIONS 2012)  
IT 8601 – Embedded Systems  
Semester- IV

Time: 3 hrs

Max. Marks: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. Differentiate micro processor and micro controller
2. Compare ADD and ADDC instructions with example
3. Discuss advantage of ARM processor over 8 bit processor
4. Discuss briefly about link register at ARM core
5. Discuss briefly priority based scheduling policy
6. Explain about context switching with example
7. Write an embedded C program to read data from port P1 and send to port P2
8. Write an embedded C program to toggle LED connected to 2nd pin of Port 1
9. Explain briefly emulator in embedded system development
10. List two different real world examples of embedded system product



Part – B ( 5 x 16 = 80 Marks)

- 11 (i) Draw architecture diagram of 8051 micro controller and explain the working principle of this processor (10)
- (ii) Write different addressing format in assembly language with example (6)
- 12 a. Draw ARM core dataflow model and explain the working principle of this processor (16)  
(OR)  
b. Draw ATOM E6xx series architecture and explain how this processor supports mobile communications (16)
- 13.a. Explain RMS algorithm in scheduling. Schedule the following task set with fixed priority (RMS) algorithm (16)

Process	exe time	period
P1	1	3
P2	2	6
P3	2	8

(OR)

b. Discuss in detail about inter process communication mechanisms in embedded systems

14 a. Write an embedded C program to monitor switch connected at pin P1.4 If it is pressed receive data serially and send it to P1. Assume XTAL=11.0592MHz Set baud rate as 4800

(OR)

b. Write an embedded C program to check status of pin P1.2, if it is one then create a 15 Khz square wave at P2.2. Else display "N" at pin P1.3. Use timer 1 to create square wave with 16 Mhz crystal oscillator.

15.a. Discuss in detail about two different design methodology in embedded system design

(OR)

b. Design a controller for traffic signal , identify the functions to implement this system and write the pseudo code for the same

