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Question Paper Code: 59473

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Open elective

Civil Engineering

15UEC973 - EMBEDDED SYSTEMS AND PROGRAMMING

(Common to CSE, EEE, EIE, Mechanical, IT, Chemical)

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5x 1 = 5 Marks)

1. The _____ processor are mostly used in Mobile phones CO1- R
(a) ARM (b) 8051 (c) 8086 (d) 8088 processors
2. The devices shares its knowledge by signals ,that mode is called CO2- R
(a) Request (b) Response (c) Handshake (d) Exit
3. The mechanism co-ordinates multiple process is CO3- R
(a) Semaphore (b) Firmware (c) Middleware (d) Hardware
4. The starting address of memory referenced by CO4- R
(a) Counter (b) Timer (c) Pointer (d) Modifier
5. The algorithm uses prime numbers CO5- R
(a) DS (b) RSA (c) SHA (d) HA

PART – B (5 x 3= 15 Marks)

6. How the exceptions are handled in assembly programming? CO1-U
7. What is bus? CO2- R
8. Define the term kernel. CO3- R

9. Explain about macro function. CO4- R
10. Explain about cross compiler and assembler. CO5- U

PART – C (5 x 16= 80Marks)

11. (a) What is instruction set? Explain the types of instruction sets used in ARM processors system. CO1- U (16)
- Or
- (b) Briefly explain the Memory management mechanisms of ARM processor system. CO1- U (16)
12. (a) Implement peak() and poke() function in assembly program of ARM processor. CO2- U (16)
- Or
- (b) Draw the Timing diagram of DMA operation including data transfer and control signals CO2- U (16)
13. (a) Construct the memory system for a new Mobile phone system. CO3- App (16)
- Or
- (b) Design the software and hardware required for a new digital camera embedded system. CO3- Ana (16)
14. (a) Design the software and hardware architecture requirements of a digital camera system. CO4- Ana (16)
- Or
- (b) Design the software and hardware architectural requirement of a smart card system. CO4- Ana (16)
15. (a) Write an embedded c program using multiple function calls in cyclic order. CO5- U (16)
- Or
- (b) Write a embedded c program using queuing functions on interrupts. CO5-U (16)