C **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 59473

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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. Compiler is the ---------- used to convert high to machine language. CO1- R

   (a) device (b) model (c) software (d) hardware

2. The height/width ratio of the memory is known as ---------- ratio. CO2- R

   (a) Margin (b) Aspect (c) Length (d) Breath

3. The light weight process shares the same address space is CO3- R

   (a) Scheduling (b) Threats (c) Portioning (d) Splitting

4. The data structure in the form of 2 – dimensional array is CO4- R

   (a) Queue (b) Stack (c) Pipe (d) Table

5. Software for encryption and deciphering is called CO5- R

   (a) Stenography (b) cryptography (c) SAP (d) SAD

PART – B (5 x 3= 15 Marks)

6. How cache memory used in microprocessors? CO1-U
7. What the additional devices can be included in microcontroller? CO2- R
8. Define multitasking. CO3- R
9. What are NULL pointers? Explain with an example. CO4- R
10. Explain the operation of application specific instruction processor. CO5- U

PART – C (5 x 16= 80Marks)

11.	(a)	Describe the working principles of 8051 Microcontroller system.	CO1- U	(16)
		Or		
	(b)	Briefly explain the Memory management mechanisms of ARM processor system.	CO1- U	(16)
12.	(a)	Explain the Bus protocol and its various modes of executions.	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)	Explain the various states and scheduling techniques of an operating system.	CO3- Ana	(16)
14.	(a)	Create a list of tasks, functions and IPCs of an embedded system with an example.	CO4- Ana	(16)
		Or		
	(b)	Design the software and hardware architectural requirement of a smart card system.	CO4- Ana	(16)
15.	(a)	Explain the different data structure using in embedded c programming.	CO5- U	(16)
		Or		
	(b)	Write a embedded c program using queuing functions on interrupts.	CO5-U	(16)