Code No: R163205E **R16** SET - 1

III B. Tech II Semester Regular Examinations, April/May - 2019

EMBEDDED SYSTEMS

(**Common to** Computer Science and Engineering, Information Technology)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1.	a)	What is the difference between PLD and ASIC?	[3M]
	b)	Give the classification of 8051 registers?	[2M]
	c)	What is thread in the operating system context?	[2M]
	d)	What is deadlock?	[2M]
	e)	What is mutex?	[2M]
	f)	List the features of ARM?	[3M]

PART -B

2.	a)	Explain the various purposes of embedded systems in brief with illustrative examples.	[7M]
	b)	List out the comparisons between general purpose computing system and embedded system.	[7M]
3.	a)	Discuss in detail about the parallel I/O ports in 8051 microcontroller and explain how these ports are accessible for specific application?	[7M]
	b)	What is operational quality attributes? Explain the important operational quality attributes to be considered in any embedded system design.	[7M]
4.	a)	List and briefly explain the basic functions of a real time kernel.	[7M]
	b)	Explain the terms task and process in the content of operating system.	[7M]
5.	a)	Classify the processes running on an operating system based on the degree of interaction. Also explain the concept of shared memory based IPC.	[7M]
	b)	Explain the dining philosopher's problem in the context of process synchronization.	[7M]
6.	a)	Briefly discuss about producer-consumer problem with suitable coding.	[7M]
	b)	Explain the role of device driver in the OS context.	[7M]
7.	a)	List the features, limitations and advantages of simulator based debugging.	[7M]
	b)	Explain about the primary objectives of embedded product development life cycle.	[7M]

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