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Total Number of Pages : 01

B.Tech.
PEEC5405

8th Semester Regular Examination 2017-18

EMBEDDED SYSTEMS

BRANCH : AEIE, BIOMED,

ECE, EEE, EIE, ELECTRICAL, ETC, IEE

Time : 3 Hours

Max Marks : 70

Q.CODE : C550

Answer Question No.1 which is compulsory and any five from the rest.

The figures in the right hand margin indicate marks.

Answer all parts of a question at a place.

- Q1 Answer the following questions : (2 x 10)**
- a) What do you mean by interrupt latency?
 - b) The performance of hierarchical memory system is faster. Why?
 - c) What do you mean by cross compilation?
 - d) Distinguish between simulators and emulators.
 - e) What do you mean by software trade-offs?
 - f) Why cross compilers are needed in designing an embedded system?
 - g) What do you mean by release time of a real time task?
 - h) What is UML?
 - i) What is EDLC and why it is Required?
 - j) What do you mean by hierarchical RTOS ?
- Q2 a) How embedded systems are different from other computing system? Describe the challenges with proper example. (5)**
- b) Describe the computational models in Embedded system design. (5)**
- Q3 a) Explain the relationship between operating system, computer hardware, system software in an embedded system with the help of a schematic diagram. (5)**
- b) Discuss the role of tools for the development and debugging of embedded systems. What do you mean by run control debugging and field debugging? (5)**
- Q4 a) Describe the characteristics and quality attributes of Embedded system. (5)**
- b) Explain the different types of semaphores supported by Micro C/OS-II kernel. (5)**
- Q5 a) Describe the programming in Embedded 'C' with some suitable examples. (5)**
- b) The system calls are implemented as interrupt service routines. Justify (5)**
- Q6 a) What is the need of well tested and debugged RTOS? (5)**
- b) What are the different Phases of EDLC? Discuss them in detail with suitable example. (5)**
- Q7 What is the role of VHDL in hardware design? What are the building blocks of layouts? Explain them in details. (10)**
- Q8 Write short answer on any TWO : (5 x 2)**
- a) Integrated Development Environment (IDE)
 - b) Electronic Design Automation
 - c) Role of "STATE CHART" in embedded system design.
 - d) RISC Vs CISC Architecture