C 22586 (Pages : 2) Name.....

Reg No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE [2014 SCHEME] EXAMINATION, APRIL 2017

Computer Science Engineering

CS 14 601—EMBEDDED SYSTEMS

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

1. Draw a UML sequence diagram for an interrupt driven write of a device.
2. Discuss the software and hardware debugging techniques.
3. Describe bus protocols with a neat diagram.
4. Draw a block diagram to indicate the signals used for DMA operation.
5. Draw the timing diagram and explain the steps involved in the Read and Write operation of asynchronous DRAM ?
6. Explain about various states associated with process.
7. Differentiate between Functional and Non Functional specification for an embedded system with suitable example.
8. Explain in detail about Hierarchical / Concurrent State Machine Model.
9. Differentiate between two level and Multi - level logic minimization.
10. Discuss about the basic compilation techniques.

(8 × 5 = 40 marks)

Part B

1. (a) Explain the design challenges in Embedded System using suitable example.

Or

(b) Enumerate on the peripheral devices in Embedded System and explain the role of Counter, Analog - digital converter.

2. (a) Explain the Memory Management Unit and discuss about the problems associated with mapping and replacement.

Or

(b) List the requirements and write down the specification details for a digital camera.

Turn over

3. (a) With suitable diagram explain the inter process communication mechanism used in Embedded System.

Or

(b) With suitable diagram explain the Finite State Machines.

4. (a) Explain about the differences in Logic level synthesis and Behavioral synthesis.

Or

(b) Explain about the hardware and software code design involved in design technology.

(4 × 15 = 60 marks)