Level: Bachelor   Semester: Spring   Year   : 2014
Programme: BE   Full Marks: 100
Course: Embedded System   Pass Marks: 45
                                       Time   : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) What is an embedded system? What are the applications of embedded system?   8

   b) What are Software Design Issues? Explain basic architecture of Software Design Issues.   7

2. a) What is an ASIP? Give two examples where it can be used. Discuss the advantages of an ASIP over single purpose processor.   7

   b) Distinguish between a combinational and sequential circuit with example.   8

3. a) Explain in detail the three different cache mapping techniques.   9

   b) Explain the operations of storing and erasing the data in UV-EPROM.   6

4. a) Why an interrupt is important? Discuss the methods to serve interrupts.   7

   b) What is a process and process control block? Explain various states of a process.   8

5. a) Explain various types of task scheduling techniques in RTOS.   8

   b) Describe architecture of 8051 Family.   7

6. a) Give an introduction to VHDL and explain the basic structure of a VHDL file with all the types of architecture.   8

   b) Write a VHDL program to simulate binary adder.   7

7. Write short notes on: **(Any two)**   2×5

   a) Wireless communication.

   b) Cross compiler and cross assembler.

   c) VHDL realization of binary subtractor.