Total No. of Questions : 4]   [Total No. of Printed Pages : 2

Roll No. ....

MEVD–301(B)

M. E. (Third Semester) EXAMINATION, Dec., 2010

(VLSI Design)

EMBEDDED SYSTEM PROGRAMMING

(Elective—IV)

[MEVD—301(B)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt all questions. Each question has three Parts (a), (b) and (c). Attempt any *two* parts.

Unit—I

1. (a) Write in detail about linux operating system. What is open source operating system ? Write advantages of linux operating system. $12\frac{1}{2}$

   (b) What is Shell ? What is shell script ? Write features and types of various available shells. Explain how shell executes external commands. List various internal commands implemented by shells. $12\frac{1}{2}$

   (c) Explain pointers in C. Write a C program to find addresses of COM port. Explain usage of ICC compiler in detail. $12\frac{1}{2}$

Unit—II

2. (a) Explain usage of C in embedded systems. P. T. O.

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   (b) What are the components of a processor ? Explain in detail : $12\frac{1}{2}$

   (i) Single purpose

   (ii) General purpose

   (iii) Application specific

   processors in detail. Design a single purpose processor to find greatest common divisor of two numbers. Design an equivalent hardwired circuit.

   (c) Explain various memory management techniques in detail. Explain memory mapped I/O and I/O mapped I/O in detail. $12\frac{1}{2}$

Unit—III

3. (a) Explain in detail design issues of embedded system. Differentiate between microprocessor and microcontroller. $12\frac{1}{2}$

   (b) Explain in detail various development tools for embedded system. Differentiate between emulator and simulator. $12\frac{1}{2}$

   (c) Explain in detail profilers and test coverage tools. $12\frac{1}{2}$

Unit—IV

4. (a) Explain in detail about writing device drivers. Explain insmod and rmmod commands available in linux. $12\frac{1}{2}$

   (b) Write a program in 8051 assembly language for BCD addition. $12\frac{1}{2}$

   (c) Explain 68HC 11 and 80196 microcontrollers in detail. $12\frac{1}{2}$