Total No. of printed pages = 2

Co-605/VLSI/6th Sem/2014/N

VLSI AND EMBEDDED SYSTEM

(Elective)

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) Explain the working of an N-channel enhancement mode MOSFET. 7

   (b) Draw a CMOS inverter. Explain the working of CMOS inverter. 7

2. Using CMOS technology, draw : 6+8=14

   (i) Half adder

   (ii) Full adder.

[Turn over

3. Implement the following using PLA :

(i) $f(A, B, C, D) = \sum (1, 5, 6, 7, 10, 12, 15)$

(ii) 4 : 1 multiplexer

(iii) Full adder. 4+5+5=14

4. Explain any two partitioning algorithm. 14

5. (a) What is an embedded system ? Explain the architecture of an embedded system. 10

(b) Write any 10 embedded system protocols. 4

6. (a) What is scheduling ? What are the different scheduling policies ? Explain each. 8

(b) What is software-hardware partitioning ? Explain one algorithm for software-hardware partitioning. 6

7. Write short notes on : 7×2=14

(a) Pass transistor

(b) FPGA.