

Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/M.Tech (ECE-VLSI)/SEM-2/MVLSI-201/2011**

**2011**

**PROCESSOR ARCHITECTURE FOR VLSI**

*Time Allotted : 3 Hours*

*Full Marks : 70*

*The figures in the margin indicate full marks.*

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

**GROUP – A**

*Answer all the following questions.*

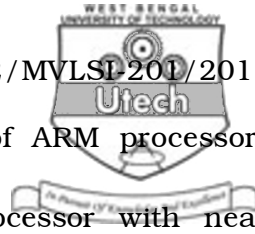
1. What do you mean by EPIC ? 3
2. What is Flag register ? 2
3. What is the operation of latch input and output enable of  
register ? 3
4. What do you mean VLIW ? 3
5. Describe Flynn's classification of computers. 3



**GROUP – B**

Answer any *four* of the following.

6. What is pipelining ? Explain the concept with a suitable example. What is speed-up of a pipelined architecture.  
4 + 10
7. What do you mean by SOC ( system on chip ) ? Give brief description of three platform based SOC architecture. 4 + 10
8. What is the basic architectural and functional difference between Digital Signal Processor and General Purpose Processor ? Why do we prefer Digital Signal Processor in Signal Processing Field ? With appropriate example, discuss about evolution of Digital Signal Processor. 6 + 4 + 4
9. Explain CISC & RISC architecture of computer. Compare their merits and demerits. Compare and contrast Von Neumann and Harvard architecture. 4 + 4 + 6
10. What do you mean by “Real Time Processing” ? Discuss with example. Describe with neat diagram of TMS320C6XXX series processor architecture ? 4 + 10



11. Discuss various architectural versions of ARM processor.  
Describe major component of ARM processor with neat sketch. 4 + 10
12. Explain the UMA, NUMA & COMA architectural models for a multiprocessor system. Explain briefly the Cache Coherence problem related to COMA model and the different methods to cope the problem. 10 + 4
13. Discuss about embedded microprocessor trends. What do you mean by reconfigurable computing ? How does microprocessor differ from SOC ? Discuss about board level design. 4 + 4 + 3 + 3
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