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