

R07

Code: R7310402

III B. Tech I Semester (R07) Supplementary Examinations, May 2012

COMPUTER ORGANIZATION

(Common to ECE, EIE & E.Con.E)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 (a) What are functional units? Discuss in detail about basic functional units of a computer.
(b) Explain about CISC and RISC performance, compiler performance.
- 2 Explain the register transfer with a suitable example. Construct the timing diagram for that example.
- 3 What are arithmetic and logical operations? Explain different steps to perform them.
- 4 Draw and explain the flow chart for floating point division.
- 5 (a) Write a note on memory hierarchy.
(b) Consider a cache consisting of 256 blocks of 8 words each, for a total of 2048 words, and assume that the main memory is addressable by a 16-bit address. The main memory has 64K words which are divided into 8192 blocks of 8 words each. Find the number of bits in tag, block and word field of the main memory address for direct mapping scheme.
- 6 (a) With the help of block and timing diagrams explain source-initiated strobe for data transfer.
(b) Give the logic diagram of a typical 4 X 4 FIFO buffer and explain.
- 7 (a) Explain in detail arithmetic pipeline.
(b) What are data conflicts?
- 8 (a) Explain the characteristics of multiprocessors.
(b) Explain how synchronization is achieved in multiprocessor systems.
