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Fourth Semester B.E. Degree Examination, Dec.2013/Jan.2014
Computer Organization

Max. Marks: 100

Time: 3 hrs.

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Explain with necessary block diagram the basic functional unit of a computer. (10 Marks)
- b. Explain in detail the generation of computers. (10 Marks)
- 2 a. Big-Endian and Little-Endian assignments, explain with necessary figure. (05 Marks)
- b. List the name, assembler syntax and addressing functions for the different addressing modes. (10 Marks)
- c. Explain logical and arithmetic shift instructions with an example. (05 Marks)
- 3 a. Draw the arrangement of a single bus structure and brief about memory mapped I/O. (05 Marks)
- b. Explain: i) Interrupt enabling; ii) Interrupt disabling; iii) Edge triggering, with respect to interrupts. (10 Marks)
- c. Draw the arrangement for bus arbitration using a daisy chain and explain in brief. (05 Marks)
- 4 a. Draw the hardware components needed for connecting a keyboard to a process and explain in brief. (10 Marks)
- b. Explain the use of PCI bus in a computer system with necessary figure. (05 Marks)
- c. List the SCSI bus signals with their functionalities. (05 Marks)

PART – B

- 5 a. Draw for 1K x 1 memory chip with neat figure. (10 Marks)
- b. Show with diagram the memory hierarchy with respect to speed, size and cost. (05 Marks)
- c. With figure explain about direct mapping cache memory. (05 Marks)
- 6 a. Explain with figure the design of a 4-bit carry look ahead adder. (10 Marks)
- b. With figure explain circuit arrangements for binary division. (05 Marks)
- c. IEEE standard for floating point numbers, explain. (05 Marks)
- 7 a. Draw and explain the single-bus organization of the data path inside a processor. (10 Marks)
- b. Write the control sequence for an un-conditional branch instruction. (05 Marks)
- c. Draw the block diagram of the control unit organization and describe in brief. (05 Marks)
- 8 a. Explain in brief about multiprocessor systems. (05 Marks)
- b. Explain about memory organization in multiprocessors. (10 Marks)
- c. What are the classifications of parallel processing? (05 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

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