MCA.I/11.14.0973 Reg. No. | | | | | | | | |

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MCA DEGREE I SEMESTER EXAMINATION NOVEMBER 2014

CAS 2102/2104 COMPUTER ORGANIZATION

(*Supplementary – 2008 Revision*)

Time: 3 Hours Maximum Marks: 50

PART A

(Answer ***ALL*** questions)

(15 × 2 = 30)

I. (a) Explain various bus structures.
(b) What are the different ways used to represent a floating point number?
(c) Design an octal to binary encoder.

II. (a) What is an assembly language? Specify its advantages and disadvantages over high level language.
(b) What is a subroutine? What are the steps performed during a subroutine call?
(c) What is DMA? Explain its operations.

III. (a) Explain the internal organization of 2M × 8 dynamic memory chip.
(b) Explain non-restoring division with an example.
(c) Implement the basic gates using NAND and NOR gates.

IV. (a) Write a note on instruction hazards.
(b) Write the control sequence for execution of the instruction Add R3, R1.
(c) Explain instruction pipelining with an example.

V. (a) Explain segment registers in 8086.
(b) Discuss the salient features of Pentium processor.
(c) Compare the features of CISC and RISC processors.

PART B

(5 × 4 = 20)

VI. Design a modulo – 6 synchronous counter using T – flipflops.

OR

VII. Explain the working of master-slave flipflop using SR flipflops.

VIII. What is meant by addressing mode? Explain with example the commonly used addressing modes in general purpose computers.

OR

IX. Explain the different accessory methods of I/O devices.

X. Explain the principle of operation of cache memory. Discuss the mapping algorithm used.

OR

XI. Explain Booth's algorithm with an example.

XII. Describe the design and organisation of hardwired control and micro-programmed control

OR

XIII. Write the influence of pipelining on instruction sets.

XIV. Draw and explain the architecture of 8086 microprocessor

OR

XV. Write short notes on:
(i) Cyrix microprocessors
(ii) AMD microprocessors

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