

## B.TECH. DEGREE EXAMINATION, DECEMBER 2012

## Third Semester

Branch : Computer Science

CS 010 304—COMPUTER ORGANISATION (CS)

(New Scheme—Regular/Improvement/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

## Part A

Each question carries 3 marks.

1. What are the basic arithmetic operations performed in ALU of a basic processor ?
2. What are the advantages of using a floating point representation ?
3. What is a vertical microinstruction ?
4. What is a scratch pad memory ?
5. Write the functions of a page table.

A to

A to

(5 × 3 = 15 marks)

## Part B

Each question carries 5 marks.

6. What are the different ways of representing signed numbers ?
7. Describe how multiplication and division takes place in a floating point number.
8. What are the advantages of having horizontal instruction format ?
9. What is the need for having the hierarchy of memory devices ?
10. What is the need for dynamic relocation techniques in memory ?

A

(5 × 5 = 25 marks)

## Part C

Answer either (a) or (b) section from each module.

Each full question carries 12 marks.

11. (a) Explain the different methods by which addition and subtraction takes place in a signed number system.

Or

- (b) Write a short note on Booth's algorithm.

Turn over

12. (a) How are the different arithmetic operations performed in decimal number system in a processor ?

Or

(b) Explain the different steps to be taken care of while designing an ALU.

13. (a) With a block diagram, explain the organization of a control unit.

Or

(b) When do we prefer microprogrammed control unit and why ?

14. (a) Compare and contrast different types of associative memories.

Or

(b) Write notes on RAMs.

15. (a) How is paging different from segmentation in memories ?

Or

(b) With a neat diagram, explain the need and the process by which the physical address changes to logical address and vice-versa.

(5 × 12 = 60 marks)