D 90003 (Pages : 2) Name.....

Reg. No.....

THIRD SEMESTER B.TECH. (ENGINEERING) [14 SCHEME] DEGREE EXAMINATION, NOVEMBER 2015

CS/IT 14 303—COMPUTER ORGANIZATION AND DESIGN

Time : Three Hours Maximum : 100 Marks

Part A

Answer any **eight** *of the following questions.*

I. 1 Enumerate the basic building blocks of a computer.

2 Write the characteristics of RISC processor.

3 Distinguish between signed and unsigned number.

4 What are the main components of ALU ?

5 What is a data path ?

6 What is an exception ?

7 Define the term 'polling'.

8 Distinguish between synchronous and asynchronous I/O controllers.

9 Define the various hazards in computer architecture.

10 How does cache memory improve the system performance ?

(8 × 5 = 40 marks)

Part B

II (a) Explain in detail with necessary examples, various addressing modes.

Or

(b) Discuss in detail about various bus structures in computers.

III. (a) Explain in detail about the process of performing addition and subtraction in computer architecture.

Or

(b) Elaborate in detail about floating point representation and arithmetic.

IV. (a) Explain in detail about single and multi-cycle implementations.

Or

(b) Explain in detail about pipeline hazards.

V. (a) With a neat diagram explain in detail about common framework in memory hierarchy.

Or

(b) Discuss in detail about the working of Input-Output interfaces.

(4 × 15 = 60 marks)