Reg. No. : | | | | | | | | | | |

Question Paper Code: 33023

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Third Semester

Computer Science and Engineering

01UCS303 - COMPUTER ORGANIZATION AND ARCHITECTURE

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. State the basic functional units of a computer.
2. What do you mean by stored program concept?
3. What is Subword Parallelism?
4. Write down the steps for restoring division and non-restoring division.
5. What is control hazard?
6. Define branch folding.
7. Give an example for WAW Hazard.
8. What is instruction level parallelism?
9. What is Rotation Latency?
10. Define Bus.

PART - B (5 x 16 = 80 Marks)

11. (a) With suitable example, explain the addition of signed numbers. (16)

Or

(b) Write in detail about various addressing modes. (16)

12. (a) Explain the MIPS Multiplication and Division process with hardware architectural diagram. (16)

Or

(b) Explain the floating point addition steps and algorithm in detail. (16)

13. (a) Explain the complete datapath functions of the multicycle implementation with architectural diagram. (16)

Or

(b) Discuss the various hazards that might arise in a pipeline. What are the remedies commonly adopted to overcome/minimize these hazards. (16)

14. (a) Explain the Multiple-instruction multiple-data streams (MIMD) parallel architecture functions with suitable block diagram. (16)

Or

(b) Discuss in detail about Flynn's classification. (16)

15. (a) Explain the different ways used for improving the cache performance. (16)

Or

(b) Explain in detail about virtual memory. (16)

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