RTU paper

5E5101

Roll No. _____ Total No of Pages: 2

5E5101

B. Tech V Sem. (Main/Back) Exam. Nov-Dec. 2015
Computer Science & Engineering
5CS1A Computer Architecture
Common with IT

Time: 3 Hours

Maximum Marks: 80
Min. Passing Marks Main: 26
Min. Passing Marks Back: 24

Instructions to Candidates:

*Attempt any **five questions,** selecting **one question** from **each unit.** All questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.

1. NIL 2. NIL

UNIT-I

Q.1 (a) Explain Flynn's classification with suitable examples. [8]

(b) Explain direct and indirect register addressing modes with suitable examples. [8]

OR

Q.1 (a) Explain basic design of a simple computer system. [8]

(b) Is there any difference among software, hardware & firmware? Explain. [8]

UNIT-II

Q.2 (a) Is there any difference between RISC & CISC computers? Explain. [8]

(b) What is the advantage of pipelining? Explain instruction pipeline in detail. [8]

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OR

Q.2 (a) What do you understand by speedup and efficiency? What are bottlenecks? Explain. [8]

(b) Explain arithmetic pipeline with a suitable example. Draw diagram also. [8]

UNIT-III

Q.3 (a) Explain array multiplier with a suitable example. [8]

(b) Explain stack organization of Central Processing Unit. [8]

OR

Q.3 Multiply and steps of (-37) × (21) multiplication are to be shown using Booth's multiplier algorithm. [16]

UNIT-IV

Q.4 Design 4×3 RAM. Also explain basic cell. [16]

OR

Q.4 What are the 3 different cache memory schemes? Explain in detail with suitable examples. [16]

UNIT-V

Q.5 Write short notes on -

(a) IOP [8]

(b) DMA [8]

OR

Q.5 Write short notes on

(a) Priority interrupts [8]

(b) I/O Interface. [8]

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