B.E/B.TECH END SEMESTER ARREAR EXAMINATION APR/MAY 2013

INFORMATION TECHNOLOGY

THIRD SEMESTER

IT9201-COMPUTER ORGANIZATION

DURATION: 3Hrs   **MARKS: 100**

PART A (10 X 2 =20)

Answer the ALL Question

1. Define Combinational and Sequential circuit.

2. Convert the following binary number to decimal number

   a. 110101_2 b. 111100_2

3. How Instruction set plays a major role in system performance?

4. List out the parameters to be considered while designing an ALU.

5. Compare static and dynamic memory in terms of their design.

6. What is the need for virtual address?

7. What is the role of DMA?

8. How various vendors' I/O devices are able to communicate with the computer system?

9. What is a virtual memory?

10. Mention the advantage of USB bus?

PART B (5 x 16 = 80 Marks)

11. i. Design a 4-bit combinational incremental circuit.   (6)

      ii. Write down the steps for designing synchronous sequential circuits with an example circuit.   (10)

12. a) Explain the various ways in which the location of an operand is specified in an instruction.

<div align="center">Or</div>

b) Compare hardwired and micro programmed control units.

13. a) Discuss the various cache mapping techniques with their advantages and disadvantages.

Or

b) Discuss the role and address mapping of virtual memory in a computer system.

14. a) Explain the schemes devised for the timing of data transfer over a bus.

Or

b) i. Compare DMA and IOP.   (6)

   ii. Discuss in detail about the various I/O interfaces.   (10)

15. a) Describe why there is a need for on-line storage devices and explain all the online storage devices.

Or

b) Discuss the various pipelining hazards with the solutions

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