

Roll.No.

2117

B. E. IVth Semester (I. T.)
Examination December, 2009

COMPUTER ARCHITECTURE AND ORGANISATION

Paper : CSE-210-E

Time : Three hours]

[Maximum Marks : 100

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Draw and explain circuit diagram for the implementation of given function using NAND gates only. 10

$$Y = A\bar{B}C + \bar{A}\bar{B}D + \bar{A}D$$

- (b) Differentiate between demultiplexers and decoders. 5
- (c) Differentiate between Latch and flip flop. 5

2. (a) What is operating system ? Explain. 8
(b) Classify computers as per flynn's classification. 12
3. (a) Explain the concept of MIPS. 10
(b) What is the concept of micro architecture ? Explain. 10
4. (a) Explain the classification of processors based upon instruction set. 10
(b) Differentiate between the data flow and control flow mechanism. 10
5. (a) Write a program in assembly language to arrange an array of 10 numbers in ascending order. 10
(b) How performance of a processor is enhanced with the help of pipelining. 10
6. (a) Compare and contrast static and dynamic memory types. 10
(b) What is memory hierarchy and why it is needed ? Explain with the help of tree diagram. 10
7. Explain the Instruction level parallelism concept and compare it with processor level parallelism. 20

8. Write short notes on :

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- (a) Instruction cycle for MOV R_1, R_2 ,
 - (b) Flag Register of 8086,
 - (c) Various interrupts of 8086.
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