

**B.Tech. 4th Semester (CSE) Examination,
May – 2016**

**COMPUTER ARCHITECTURE AND
ORGANIZATION**

Paper–CSE-210-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt five questions in total. Question No. 1 is compulsory and attempt one question from each section.

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1. (a) Define an instruction. 8×2.5=20
 (b) Differentiate between primary and secondary storage.
 (c) List any five shift micro-operations.
 (d) Differentiate between flip flop and latch.
 (e) Differentiate between encoders and decoders.
 (f) Define locality of reference.
 (g) Mention various memory parameters.
 (h) Define concurrency.

Section–A

2. Prove the following :
- (i) A positive logic AND gate operation is equivalent to negative logic OR operation.
- (ii) $\bar{A}BC + A\bar{B}C + AB\bar{C} + ABC = AB + BC + CA$ 20

(2)

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3. (a) What are the characteristics of RISC computers. 10
- (b) Why a number of addressing mode is needed ?
By taking suitable examples explain the following
addressing modes : 10
- (i) Direct
 - (ii) Index
 - (iii) Relative
 - (iv) Immediate
 - (v) Register

Section-B

4. (a) Compare CISC and RISC computers. 10
- (b) Explain any five logical micro instructions. 10
5. (a) Define the term "locality of reference". How this
concept is used in the design of memory system? 10
- (b) What do you mean by cache memory ? Draw and
explain the block diagram of cache Memory. 10

Section-C

6. Draw and explain instruction cycle. 20

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7. (a) What do you mean by control memory ? How is it
different than simple memory ? 10
- (b) What are the various type of instructions supported
by the 8086 family ? Discuss each briefly. 10

Section-D

8. (a) Differentiate between memory reference, register
reference and I/O reference. 10
- (b) Differentiate between instruction level and
processor level parallelism. 10
9. (a) Draw and explain the multilevel viewpoint of a
machine. 10
- (b) What are the various types of operating systems ?
Discuss the characteristics of each briefly. 10