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BT-4 / M-19

COMPUTER ORGANIZATION AND ARCHITECTURE

Paper–IT-202N

Time allowed : 3 hours] *[Maximum marks : 75*

Note : *Attempt **five** questions in all, selecting at least **one** question from each unit.*

Unit–I

1. (a) What is Computer Architecture ? Discuss Flynn's classification of computer architectures. 8

(b) Explain structured organization of a computer system with suitable diagram. 7

2. (a) What is CISC architecture ? Explain main characteristics of this architecture. 7

(ii) Explain different types of instruction formats with suitable examples. 8

Unit–II

3. Draw the block diagram of a typical CPU showing registers and data path. Explain the function of each component in the diagram. 15

4. (a) What is Instruction Cycle ? Explain 3-stage instruction cycle with suitable examples. 7

(b) What is Microprogram Sequencer ? Explain its working with suitable diagram. 8

Unit–III

5. (a) Explain principle of locality of reference and inclusion property of memory hierarchy. 7

(b) What is SRAM ? Explain the construction and working of 2D SRAM. 8

6. (a) What is associative mapping used in cache ? Explain. 5

(b) What is Virtual Memory ? Explain segmentation scheme of virtual memory. 5

(c) Explain different memory allocation policies. 5

Unit–IV

7. (a) What is Concurrency ? How can you exploit it ? Explain. 5

(b) What is Amdahl's law ? Explain its use. 5

(c) What is ILP ? Explain working of a pipeline through time-space diagram. 5

8. (a) What is Multiprocessor ? Explain the architecture of a typical multiprocessor system. 8

(b) What is DMA ? Explain its working with the help of suitable diagram. 7