

Code No: R09220501

R09

SET-1

B.Tech II Year - II Semester Examinations, April-May, 2012

COMPUTER ORGANIZATION
(COMPUTER SCIENCE AND ENGINEERING)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- - -

- 1.a) Give a good account of Fixed Point and Floating point representation of data in a computer with examples.
- b) Explain pipelining and super scalar operation. [15]
2. Explain the organization of 4-bit binary adder and 4 bit binary incrementor. Illustrate the functioning of these with examples. [15]
3. With reference to microprogram control explain Address sequencing in detail with examples. [15]
4. With the aid of a flow chart explain a Hardware algorithm for 'Divide' operation. [15]
5. List and explain various issues related to performance consideration of memory. [15]
6. Give a detailed account of priority interrupt. [15]
7. Write notes on
 - a) Vector Processing
 - b) Array Processors.
8. Explain Interprocessor communication and synchronization in Multiprocessors. [15]

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SET-2

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Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- - -

- 1.a) Give a good Account of performance measurement of a Digital Computer
- b) Explain the role of system software in the context of a Digital Computer. [15]

2. Explain the organization of 4 bit arithmetic circuit with a schematic. Illustrate its functioning with an example. [15]

3. Explain the organization and functioning of Micro program sequencer. [15]

4. With the aid of flow chart explain Hardware implementation of Decimal Division. [15]

5. Explain in detail secondary storage Media concepts. [15]

6. Explain in detail any two modes of Data Transfer. [15]

7. Give a good account of Instruction Hazards in pipelining. [15]

8. Explain Inter process Arbitration in Multiprocessors. [15]

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SET-3

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Time: 3 hours

Max. Marks: 75

**Answer any five questions
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- - -

- 1.a) Give a detailed account of how a digital computer is organized and explain its functions clearly.
- b) Give a detailed explanation of Data Representation in a digital computer with suitable examples. [15]
2. Explain the organization of 4 bit combinational circuit shifter. Illustrate its functioning with an example. [15]
3. Explain the following with examples:
 - a) Micro Operations
 - b) Micro Instructions
 - c) Micro Program
 - d) Micro Code. [15]
4. With the aid of a flow chart explain either addition or subtraction operation of floating point numbers at hardware level. [15]
5. Explain in detail the organization of a functioning of secondary storage media. [15]
6. Write notes on the following communication protocols:
 - a) RS 232
 - b) USB
 - c) IEEE 1394. [15]
7. Give a good account of Data Hazards in pipelining. [15]
8. Explain cache coherence in multiprocessors. [15]

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SET-4

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Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- - -

- 1.a) Explain the functioning of a Digital Computer.
- b) Give a note on error detection codes. [7+8]
- 2.a) Explain Register Transfer Process and control function with suitable examples.
- b) Explain the concept of Three state Bus Buffers. [7+8]
3. Develop and explain a block schematic for decoding of micro operation fields. [15]
4. With the aid of a flow chart explain Booth's algorithm for multiplication of signed-2's complement numbers. [15]
5. Give a good account of Asynchronous and Synchronous DRAMs. [15]
6. Give a detailed Account of Direct Memory Access (DMA). [15]
7. Write notes on:
 - a) Concepts of Pipelining.
 - b) Vector Processing. [15]
8. Explain Inter Connection Structures in Multiprocessors. [15]
