Subject: Computer Architecture   Subject Code: CA613T
Staff Name: Mrs.Roseline & Mrs.A.Nirmala

UNIT - I

1. Explain the general register organization with a block diagram of bus organization for seven CPU register in detail?
2. Write a brief note on register stack.
3. Give a short note on memory stack.
4. Convert the Arithmetic Expression into reverse polish notation and implement the stack operation to evaluate the result?
5. What is instruction format? Explain the various address of instruction format.
6. Discuss about the various addressing mode techniques.
7. Discuss about data transfer and manipulation instructions in detail

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UNIT - II

1. What is pipeline? Explain the organization and behavior of a pipeline in detail.
2. Describe the arithmetic pipeline for floating point addition and subtraction.
3. Discuss about four segment instruction pipeline.
4. Discuss about RISC pipeline with the example of delayed load and delayed branch.

UNIT - III

1. Explain the addition and subtraction of signed-magnitude number in detail with flow chart.
2. Discuss about the multiplication algorithm with flowchart.
3. Discuss about Booth algorithm for multiplication of signed-2's complement numbers.
4. Explain the operation of division algorithm for signed magnitude data with flowchart in detail.
5. Explain the floating point addition and subtraction algorithm with flowchart in detail.

UNIT - IV

1. Write a short note on peripheral devices.
2. Give a short note on I/O Bus and Interface Modules.
3. Give a short note on I/O versus Memory Bus.
4. Briefly explain the Isolated versus Memory-mapped I/O.
5. Write a short on Example of I/O interface unit.
6. Discuss about Asynchronous Data Transfer in detail.
7. Explain the Modes of Transfer with flowchart for CPU program to input data.
8. Discuss about the Priority interrupt in detail.

9. What is DMA? Explain the Block diagram of DMA controller and DMA transfer in detail.

UNIT - V
1. Give a short note on memory hierarchy.
2. What is main memory? Explain the RAM and ROM chips and its Memory address map in detail.
3. What is Auxiliary Memory?
4. Explain the block diagram of associative memory and its match logic, read operation and write operation in detail.
5. Define cache memory. Explain the types of Mapping processes.
   Describe the relation between address and memory space in a virtual memory system using pages and associative