



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : CO (16MC802)

Course & Branch: MCA

Year & Sem: I-MCA & I-Sem

Regulation: R16

UNIT-I

Number Systems and Computer Arithmetic

1. a. Explain number base conversions with suitable examples. [5M]
b. Explain the flip-flops in detail. [5M]
2. Describe the following
 - a. Gray code [3M]
 - b. BCD code [4M]
 - c. Ex-3 code [3M]
3. a. How to simplify the Boolean expressions explains with suitable examples. [5M]
b. Explain combinational circuits. [5M]
4. a. Explain sequential circuits. [5M]
b. Describe K-maps with don't care conditions [5M]
5. Briefly explain the following.
 - a. Decoders [4M]
 - b. Multiplexers [4M]
 - c. Error detecting codes. [2M]
6. a. Explain adders briefly [5M]
b. Describe binary multiplication with suitable examples [5M]
7. a. Describe the importance of encoders [5M]
b. Describe floating point representation [5M]
8. a. What is BCD code write the conversion steps of BCD to binary code? [6M]
b. Explain logical operations [4M]
9. a. Explain JK flip-flop and Tigger flip-flop. [5M]
b. Explain logical gates with their circuit diagrams. [5M]
10. a. Explain octal to binary conversions with suitable example. [5M]
b. Describe full adder and its circuit diagram. [5M]

UNIT-II**Memory Organization and Micro Programmed Control**

1. a. Explain the Memory Hierarchy in detail. [5M]
b. Describe Cache Memory and its features. [5M]
2. a. What is Main Memory and explain its advantages. [5M]
b. Explain ROM Chip with neat diagram. [5M]
3. a. Explain Memory Address Map in detail. [5M]
b. What is associative mapping? [5M]
4. a. Explain ROM and RAM. [5M]
b. Describe the importance of direct mapping. [5M]
5. a. Describe Memory contention to CPU. [5M]
b. Explain set-associative mapping. [5M]
6. a. Describe the virtual Memory [5M]
b. Explain how to control memory. [5M]
7. a. Explain address sequencing. [5M]
b. Describe the design of control unit [5M]
8. a. What is hard wired control and explain it? [5M]
b. Briefly explain memory organization [5M]
9. a. What is Micro programming explain with suitable examples? [6M]
b. Differentiate between cache memory and virtual memory. [4M]
10. a. Briefly explain the micro programmed control. [6M]
b. Explain Auxiliary memory. [4M]

UNIT-III**Basic CPU Organization 8086 Assembly Language Instructions**

1. a. Explain Basic CPU Organization. [5M]
b. Describe assembler directives. [5M]
2. a. Design Intel-8086 CPU architecture. [5M]
b. Explain zero instruction formats. [5M]
3. a. Explain different types of address instructions. [5M]
b. Describe code segment registers? [5M]
4. a. Explain Intel 8086 assembler. [6M]
b. Describe the addressing modes. [4M]
5. a. Explain the generation of physical address. [5M]
b. Describe the importance of address instructions. [5M]
6. a. Describe data transfer instructions [5M]
b. Explain shift and rotate instructions. [5M]
7. a. What is address transfer and explain it clearly? [7M]
b. Describe the Flag transfer. [3M]
8. a. Explain arithmetic and logical instructions? [5M]
b. Describe conditional and unconditional transfer. [5M]
9. a. Describe interrupts and its control instructions? [5M]
b. Explain assembly language instructions. [5M]
10. a. What is process and process control instructions? [4M]
b. Explain Programming with assembly language instructions. [6M]

UNIT-IV**Input Output Organization**

1. a. Explain the importance of peripheral devices. [5M]
b. Describe assembler directives. [5M]
2. a. Describe the input- output interface. [5M]
b. What is I/O bus explain them? [5M]
3. a. Describe I/O versus memory bus. [5M]
b. Explain I/O bus and interface modules? [5M]
4. a. What is interrupt and explain with suitable example? [5M]
b. Describe the isolated versus memory. [5M]
5. a. Describe I/P organization. [5M]
b. Explain programmed I/O. [5M]
6. a. Explain interrupt initiated I/O. [5M]
b. What is DMA and explain it. [5M]
7. a. Explain priority interrupts daisy chaining methods. [6M]
b. How the DMA controller works? [4M]
8. a. Describe interrupt cycle? [5M]
b. Explain DMA transfer. [5M]
9. a. Explain I/O processor? [5M]
b. Describe the parallel priority. [5M]
10. a. Describe the IOP communication? [5M]
b. Explain what DMA-DMA control is? [5M]

UNIT-V**Pipeline and Vector Processing, Multi Processor**

1. a. What is parallel processing? [5M]
b. Explain RISC pipeline. [5M]
2. a. Describe pipelining. [5M]
b. Explain the Characteristics of multi-processor. [5M]
3. a. What is arithmetic pipeline and explain it clearly? [5M]
b. Explain Interconnection structures? [5M]
4. a. Describe Instruction pipeline. [5M]
b. What is Inter processor arbitration? [5M]
5. a. Explain inter processor communication. [5M]
b. Describe the vector processing. [5M]
6. a. Explain the importance of multiprocessor. [5M]
b. What is pipeline processing? [5M]
7. a. Describe the inter connection structures. [5M]
b. Explain array processors. [5M]
8. a. What is synchronization explain it clearly? [5M]
b. Differentiate instruction RISC pipeline. [5M]
9. a. Explain cache coherence? [5M]
b. Describe the importance of vector processing. [5M]
10. a. Explain shared memory multiprocessors? [5M]
b. Describe the inter processor communication. [5M]

Prepared by A Swaruparani, Associate Professor, Department of MCA