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SET - 1

III B. Tech I Semester Regular Examinations, Dec/Jan – 2022-23
COMPUTER ARCHITECTURE & ORGANIZATION
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1.	a)	Explain the Basic Functional Units of a Computer with diagram.	[7M]
	b)	Describe the Bus structure of computer.	[7M]

(OR)

2.	a)	Define Instruction and Explain the Instruction Sequencing.	[7M]
	b)	Discuss about the basic instruction types of a computer.	[7M]

UNIT-II

3.	a)	Explain the addressing modes with examples.	[7M]
	b)	List and explain the logic instructions.	[7M]

(OR)

4.	a)	List the types of instructions and discuss the Arithmetic instructions.	[7M]
	b)	Explain the conditional and unconditional branch instructions.	[7M]

UNIT-III

5.	a)	Classify the Interrupts and explain them.	[7M]
	b)	What is the of direct memory access? Explain.	[7M]

(OR)

6.	a)	Explain the peripheral component interconnect bus with neat sketch.	[7M]
	b)	Discuss the need of universal serial bus.	[7M]

UNIT-IV

7.	a)	Discuss the ROM, PROM and EPROM memories.	[7M]
	b)	What is cache memory? Mention its advantages and explain.	[7M]

(OR)

8.	a)	Distinguish the secondary storage devices magnetic hard disk and optical disk.	[7M]
	b)	Explain the memory interleaving technique.	[7M]

UNIT-V

9.	a)	Explain about the register transfer language.	[7M]
	b)	Classify the Arithmetic Operations and Explain.	[7M]

(OR)

10.	a)	Discuss how a processing unit can perform arithmetic or logical operations.	[7M]
	b)	Discuss about the wide branch addressing microinstructions.	[7M]

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UNIT-I

1. a) Define system software and explain the use of system software. [7M]
    b) Discuss the history of computer development.   [7M]
                                    (OR)
2. a) Explain the register transfer notation.   [7M]
    b) Discuss the Assembly language notation.   [7M]

UNIT-II

3. a) Classify the instructions of typical computers and explain about [7M]
       the logic instruction.
    b) Explain how index register and immediate addressing mode   [7M]
       works.
                                    (OR)
4. a) List the Arithmetic instructions and explain them.   [7M]
   b) Discuss the branch instructions with examples.   [7M]

UNIT-III

5. a) With the help of a neat diagram explain the Direct Memory   [7M]
       Access.
    b) Discuss about the software and hardware interrupts.   [7M]
                                    (OR)
6. a) Explain about the peripheral component interconnect.   [7M]
    b) What are the functions of typical I/O interface? Explain.   [7M]

UNIT-IV

7. a) What are the features of PROM? And explain.   [7M]
    b) Discuss the Flash Memory.   [7M]
                                    (OR)
8. a) Discuss about the secondary storage devices.   [7M]
    b) Explain mapping functions of cache memory.   [7M]

UNIT-V

9. a) Explain the features of Hardwired Control.   [7M]
    b) Discuss about the fundamental concept of Processing Unit.   [7M]
                                    (OR)
10. a) Discuss how to fetch a word from memory and execute the   [7M]
       instruction.
    b) Explain about the Micro program Sequencing.   [7M]
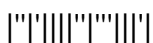
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SET - 3

III B. Tech I Semester Regular Examinations, Dec/Jan – 2022-23
COMPUTER ARCHITECTURE & ORGANIZATION
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
*****

UNIT-I

1.	a)	Discuss the evolution of Computer Architecture.	[7M]
	b)	Describe the basic operational concepts of computers.	[7M]

(OR)

2.	a)	Explain the instruction Sequencing.	[7M]
	b)	Discuss about the basic instruction types.	[7M]

UNIT-II

3.	a)	Explain the basic I/O Operations.	[7M]
	b)	Classify the instructions of a typical computer and explain about shift and rotate instructions.	[7M]

(OR)

|			
4.	a)	Write note on arithmetic and logic instructions.	[7M]
	b)	Discuss the various addressing modes with an example.	[7M]

UNIT-III

5.	a)	Define interrupt. Explain enabling and disabling process of interrupts.	[7M]
	b)	What are the functions of standard I/O interface and explain?	[7M]

(OR)

6.	a)	Discuss the concept of handling multiple devices.	[7M]
	b)	Explain in detail the function of USB.	[7M]

UNIT-IV

7.	a)	What are the basic memory circuits? Explain	[7M]
	b)	Discuss the various read only memories.	[7M]

(OR)

8.	a)	Discuss about the Magnetic Hard Disks.	[7M]
	b)	Describe with a neat diagram the Optical Disks.	[7M]

UNIT-V

9.	a)	Distinguish between the hardwired control unit and micro programmed control unit.	[7M]
	b)	Explain the Execution of complete instruction process.	[7M]

(OR)

10.	a)	Explain about the Micro Program Sequencing.	[7M]
	b)	Discuss about the Wide Branch Addressing.	[7M]
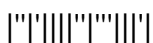
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Answer any **FIVE** Questions **ONE** Question from **Each unit**
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*****

UNIT-I
1.	a)	Explain the basic functional units of a computer.	[7M]
	b)	Describe the basic operational concepts of computer.	[7M]

(OR)

2.	a)	Write short note on register transfer notation.	[7M]
	b)	Discuss the Assembly language notation and programming.	[7M]

UNIT-II
3.	a)	Explain the basic Input and Output operations.	[7M]
	b)	Discuss the Rotate instructions with an example.	[7M]

(OR)

4.	a)	Write about the various addressing modes.	[7M]
	b)	List and explain the Arithmetic and logic instructions.	[7M]

UNIT-III
5.	a)	Summarize the functioning of DMA with a neat diagram.	[7M]
	b)	Discuss about the hardware interrupts.	[7M]

(OR)

6.	a)	Explain about the Asynchronous bus.	[7M]
	b)	Write note on Universal serial bus.	[7M]

UNIT-IV
7.	a)	Explain the Basic memory circuits.	[7M]
	b)	Compare ROM, EPROM and EEPROM.	[7M]

(OR)

8.	a)	With a neat diagram explain the functioning Optical Disks.	[7M]
	b)	Write a note on Secondary Storage Devices.	[7M]

UNIT-V
9.	a)	Examine the register transfer procedure.	[7M]
	b)	Explain the Hardwired Control.	[7M]

(OR)

10.	a)	Write a note on Micro Program Sequencing.	[7M]
	b)	explain the Micro Instructions and their formats.	[7M]

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