R19

II B. TECH II SEMESTER REGULAR EXAMINATIONS, AUG/SEPT 2021
COMPUTER ORGANIZATION
(Common to CSE and IT Branches)

Time: 3 hours   Max. Marks: 60

Note: Answer **ONE** question from each Unit (**5 × 12 = 60 Marks**)
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UNIT - I

1.	a)	Write notes on the different generations of computers.	[6M]
	b)	Explain the different functions of Registers.	[6M]

(OR)

2.	a)	Explain the role of operating system? Also discuss how multitasking is possible?	[6M]
	b)	Represent the number $(+44.5)_{10}$ as a floating-point binary number with 24 bits. The normalized fraction mantissa has 16 bits and the exponent has 8 bits.	[6M]

UNIT – II

3.	a)	Explain different logical instructions with an example.	[6M]
	b)	What is the difference between a direct and an indirect address instruction? How many references to memory are needed for such type of instruction to bring an operand into a processor register?	[6M]

(OR)

4.	a)	Explain different branching instructions with example.	[4M]
	b)	List and explain various addressing modes with examples.	[8M]

UNIT – III

5.	a)	Explain the way how the interrupt is handled by a computer with the help of flow chart.	[6M]
	b)	Show the step by step multiplication process using Booth algorithm for given multiplicand (+15) and multiplier (-13).	[6M]

(OR)

6.	a)	With neat diagram, explain the role of DMA Transfer in Direct Memory Access.	[6M]
	b)	Draw a flowchart to explain how addition and subtraction of two fixed point numbers can be done. Also, draw a circuit using full adders for the same.	[6M]

UNIT –IV

7.	a)	Explain the Optical Disk Technologies in detail.	[5M]
	b)	Explain the Set-Associative mapping procedure used in the organization of cache memory.	[7M]

(OR)

8.   a)   Compare SRAM and DRAM in detail.   [6M]

       b)   Discuss the features of flash memory that makes it suitable for use in battery-driven portable equipment.   [6M]

UNIT –V

9.   a)   Discuss applications of logic micro operations with example.   [5M]

       b)   Draw and explain the micro instructions formats.   [7M]

(OR)

10.   a)   Explain the operation of Microprogram Sequencer for control memory with a neat diagram.   [6M]

       b)   Explain the difference between hardwired control and microprogrammed control.   [6M]

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