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Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FOURTH SEMESTER B.TECH DEGREE EXAMINATION(R&S) MAY 2019

Course Code: EC206

Course Name: COMPUTER ORGANISATION (EC)

Max. Marks: 100   Duration: 3 Hours

PART A
Answer any two full questions, each carries 15 marks   Marks

1	a)	Explain Propagate adder and ripple carry adder.	(8)
	b)	Illustrate the use of shifters and rotators with example in arithmetic circuits.	(7)
2	a)	Define the following terms of MIPS processor:	(8)
		(i) Register Set. (ii)Operands.(iii) Memory. (iv) Registers.	
	b)	With example explain briefly R-type and I-type Instruction format in Machine Language.	(7)
3	a)	Define fixed point number systems with examples.	(7)
	b)	Convert to MIPS assembly instruction (i) 0x2128FF6A	(8)
		(ii) 0x0253882A	

PART B
Answer any two full questions, each carries 15 marks

4	a)	Explain Pseudoinstructions and exceptions in MIPS.	(8)
	b)	Explain Floating Point instructions used in MIPS	(7)
5	a)	Briefly define the state elements used in MIPS processor.	(7)
	b)	Explain the data path of single cycle R-type instruction.	(8)
6	a)	With neat diagram explain multi cycle control for R-type instruction.	(8)
	b)	Explain signed and unsigned instructions used in MIPS	(7)

PART C
Answer any two full questions, each carries 20 marks

7 a) Illustrate the different modes of data transfer in I/O systems.   (5)

   b) Mention the working of memory cells SRAM and DRAM.   (10)

   c) Draw Memory Hierarchy diagram.   (5)

8 a) Explain Address Translation in virtual Memory.   (8)

   b) With neat diagram explain briefly TLB.   (7)

   c) Define Write through and Write Back Policies.   (5)

9 a) Illustrate the different mapping methods of Cache Memory.   (8)

   b) Write short notes on Segmentation and paging.   (7)

   c) Sketch the internal organization of a memory chip.   (5)

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