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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