Code No: **R41021**   # R10   Set No. 1

IV B.Tech I Semester Supplementary Examinations, October/November - 2017
COMPUTER ORGANIZATION
(Electrical and Electronics Engineering)

Time: 3 hours   **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1	a)	With a neat block diagram, discuss different functional units of a computer.	[8]
	b)	Perform the following arithmetic operations using 2's complement representation for negative numbers	
		(i) (+45)+(-23) (ii) (-13)+(-43)	[7]
2	a)	What is a register transfer language? What are micro operations?	[4]
	b)	What is an instruction cycle? Explain.	[4]
	c)	With a neat diagram, discuss the operation of Arithmetic logic shift unit.	[7]
3	a)	Discuss various memory-reference instructions.	[7]
	b)	What are addressing modes? List and discuss various basic addressing modes supported by the computers with example instructions.	[8]
4	a)	What is the role of control unit in computers? Explain the design of control unit.	[7]
	b)	Define the terms Microinstruction, Microprogram, Control word and Control memory.	[8]
5	a)	What are different types of memories? Discuss memory hierarchy in computers.	[8]
	b)	What is virtual memory? How is it realized? Explain its use.	[7]
6	a)	Differentiate between memory mapped I/O and I/O mapped I/O.	[5]
	b)	Compare between asynchronous data transfer and synchronous data transfer.	[5]
	c)	What are input output ports? What is the need for input output ports?	[5]
7	a)	What is pipelining? Explain the arithmetic pipelining.	[10]
	b)	What are array processors? Explain briefly.	[5]
8	a)	What are multiprocessor systems? Discuss the characteristics of multiprocessors.	[8]
	b)	Explain the hypercube interconnection structure of multi processors.	[7]