B.E.(with Credits)-Regular-Semester 2012-Information Technology Sem III IT 305 - Computer Architecture and Organization

P. Pages : 1 Time : Three Hours		1 ee Hours	* 3 6 2 2 *		GUG/W/16/3772 Max. Marks : 80	
	Note	s: 1. 2. 3. 4.	All questions carry marks as indic Due credit will be given to neatne Assume suitable data wherever ne Illustrate your answer wherever ne	ated. ss and adequate dimensions. cessary. ecessary with the help of neat ske	tches.	
1.	a)	What ar	e different addressing modes. Expl	ain each in detail with example.	8	
	b)	Draw bl	ock diagram of connection between	n processor and memory. Also ex	plain brief. 8	
				OR		
2.	a)	What ar	e different addressing methods and	machine instructions.	8	
	b)	Explain	in brief basic functional units of a	computer.	8	
3.	a)	Explain	bus architecture and execution of c	complete instruction.	8	
	b)	Explain	in detail with the help of diagram J	Hardwired control signals.	8	
				OR		
4.	a)	How co	ntrol signals generated with micro	program sequencing?	8	
	b)	What is	3 bus organization of CPU. Give d	etails with example.	8	
5		Write ak	out note on logic design for fast ad	dan	Q	
5.	a) b)	Perform	multiplication of following signed	uer.	o n method 8	
	0)	OP				
6.		D 1-1			in a headh 10	
		algorith	in orier Booth algorithm and multi m.	ply each of the following pairs us	ing booth 16	
		a)	A = 10111 B	= 101011		
		b)	A = 11010 B	= 01101		
		c)	A = 1111 B	= 1111		
7.	a)	Give de	tails of memory hierarchy with blo	ck diagram.	8	
	b)	Explain	in detail set associative mapping fu	inction.	8	
				OR		
8.	a)	How ad	dress translation takes place virtual	memory?	8	
	b)	Give block diagram & explain in detail the organization of a 64 k * 8 k memory module 8				
		using 16 * 1 k static memory.				
9.	a)	What ar	e different I/O devices? Explain wi	th example.	8	
	b)	Explain	how interrupt service routine is he	lpful to control a program executi	on. 8	
				OR		
10.	a)	What is	instruction pipelining? Explain wit	h block diagram of 4 – stage pipe	line. 8	
	b)	What is	bus arbitration? Explain in detail.		8	
