B.TECH. DEGREE III SEMESTER (SUPPLEMENTARY) EXAMINATION IN
COMPUTER SCIENCE AND ENGINEERING
JUNE 2002

CS 305 COMPUTER ORGANIZATION
(1995 Admissions)

Time: 3 Hours   Maximum Marks: 100

I.	(a)	Explain the different addressing modes of IBM-370.	(10)
	(b)	What are Stacks and Subroutines? Explain. How stacks are used in main memory.	(10)

OR

II.	(a)	With a neat diagram explain the functional units of a digital computer.	(10)
	(b)	Explain the different addressing modes of PDP-II computer with example.	(10)

III.	(a)	explain the execution of a complete instruction in detail.	(12)
	(b)	Explain the two bus organization of the data paths inside the CPU.	(8)

OR

IV.	(a)	Explain microprogrammed control unit in detail.	(10)
	(b)	Explain the Fetch cycle of an instruction.	(5)
	(c)	Write short notes on bit slice processor.	(5)

V.	(a)	Write short notes on:	
		(i) UNI - bus	
		(ii) CRT terminal	(4 + 6 = 10)
	(b)	Write short notes on:	
		(i) Magnetic disks	
		(ii) Dot-Matrix printer	(6 + 4 = 10)

OR

VI.	(a)	Describe the interrupt technique used to achieve co-ordination of activities of CPU and I/O devices.	(10)
	(b)	Explain the different types of I/O channels available in large computers.	(10)

VII.	(a)	Give the logic design for fast adders. Explain how overflow in Integer Arithmetic is handled.	(10)
	(b)	Explain IEEE floating point standard.	(10)

OR

VIII.	(a)	Multiply the following signed 2's (two's complement) numbers using Booth's algorithm	

$A = 0 1 1 0 1$
$B = 1 1 0 1 0$

Assume that 'A' is the multiplicant and 'B' is the multiplier. Explain the advantage of Booth's algorithm over other methods for Integer multiplication. (10)

	(b)	Explain how floating point numbers are normalised.	(5)
	(c)	Explain how subtraction is carried out in a digital computer.	(5)

IX.	(a)	Discuss on Semiconductor RAM memories.	(8)
	(b)	Explain the concept of Cache memory. Describe Block-set associative mapping cache.	(12)

OR

X.	(a)	What is refreshing? Explain.	(5)
	(b)	What is memory interleaving? Explain.	(5)
	(c)	Explain the concept of virtual memory in detail.	(10)

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