B.Tech. Degree (F.T/P.T) I & II Semester (Combined) Examination, June 2001

IT/CS/EC/CE/ME/SE/EI/EB/EE 109 COMPUTER FUNDAMENTALS
(2000 admissions)

Time: 3 Hours   · Max. Marks: 100

(All programs should be written in C language. For the question with * mark, provide flow chart and a sample output)

I		What is a computer? Explain its basic architecture along with the functioning of its each sub unit.	(20)

OR

II	a)	How does the data storage in hard disk differ from that of a floppy disk ?	(10)
	b)	Explain the various language processors used today.	(10)
III	a)	Explain the various control statements used in C with specific examples.	(12)
	b)*	Write a program to reverse a given integer number.	(8)

OR

IV	a)	Discuss about the enumerated data types in C with specific examples.	(8)
	b)*	Write a program to find roots of a Quadratic equation of the form	

$$ax^2 + bx + c = 0$$, using switch statement.   (12)

V	a)	What are functions? How is it defined and accessed?	(10)
	b)*	Write a function to find the greatest of two integers. Use this function to find the greatest of three integers.	(6)
	c)	Explain the scope of the storage class specifier REGISTER.	(4)

OR

VI	a)	What is meant by recursion? How is it implemented? Is it more efficient than a non-recursive version?	(8)
	b)*	Write a program to find the binomial coefficient $_nC_r$. Use recursion to find the factorial.	(12)

VII	a)	How is an array name related to a pointer? How is an array name interpreted when it appears as an argument to a function?	(6)
	b)*	Write a program to sort the list of student names using bubble sorting algorithm. Use arrays to store the list.	(14)

OR

VIII	a)	Discuss about the C preprocessor with examples.	(6)
	b)*	Write a program to add two 2D matrices and print the result in a matrix form. Each 2D matrix should be represented as an array of pointer to one-dimensional arrays.	(14)

IX	a)	Briefly discuss about the various database models.	(10)
	b)	Discuss about the binary operations in the relational algebra.	(10)

OR

X	a)	What is meant by data abstraction? Explain the various levels of data abstraction in a database system.	(10)
	b)	What is SQL? Explain the SELECT command with syntax and examples.	(10)

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