

**B.Tech. Degree I & II Semester (Combined) Examination,
June 2002**

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

Time: 3 Hours

Max. Marks: 100

(All programs should be written in 'C' language)

- I a) Briefly explain the commonly used pointing devices. (8)
b) How is data recorded on and read from an optical disk? What is the major drawback of an optical disk storage? (12)
- OR**
- II a) What is booting? Explain. (4)
b) Explain briefly the functions of an Operating System. (12)
c) What is Internet? (4)
- III a) Explain an exit controlled and an entry controlled looping statement with syntax and specific examples. (8)
b) Write a program to find the LCM and GCD of two numbers. (provide flow chart and a sample output). (12)
- OR**
- IV a) Explain the FOR statement with syntax and examples. (8)
b) Write a program to find if the given word, phrase or sentence is a palindrome or not. (provide flow chart and a sample output). (12)
- V a) Explain the difference between call – by – value and call – by – reference with examples. (8)
b) Write a program to find whether a given number is prime or not. Use function 'Prime' that returns 1 if its argument is a prime number and returns 0 otherwise. (provide flow chart and a sample output). (12)
- OR**
- VI a) What is meant by recursion? (4)
b) Write a recursive function program to read a line of text character by character and write out the characters in reverse order. (provide flow chart and a sample output). (6)
c) What is meant by the storage class of a variable? Explain the four storage class specifiers and their scope included in C. (10)
- VII a) What is a structure? How is it defined and declared? Give examples. (8)
b) Write a program to store the information of employees (Emp No, Emp Name, Designation, Salary) working in an organization. Use array of structures and sort it in descending order of salary. (provide flow chart and a sample output) (12)
- OR**
- VIII a) Explain the typedef feature used in C with specific examples. (6)
b) Describe the information represented by each formal argument in the function main. Is information passed explicitly to each argument? (4)
c) Write a program to multiply two 2D matrices. (provide flow chart and a sample output) (10)
- IX What is relational algebra? Explain the operations performed in it with examples. (20)
- OR**
- X Distinguish between
(i) Hardware and Software
(ii) Compilers and interpreters
(iii) LAN and WAN
(iv) Algorithm and flowchart
(v) DOS and GUI based OS

