



Reg. No. :

Name :

**Sixth Semester B.Tech. Degree Examination, May 2013
(2008 Scheme)**

Branch : ELECTRICAL AND ELECTRONICS

08.603 : Numerical Techniques and Computer Programming

Time : 3 Hours

Max. Marks : 100

Instruction : Answer **all** questions from Part A and **one** from **each** Module of Part B.

PART – A (4 marks each)

1. Describe the different functional units of a computer.
2. Explain with syntax diagram the looping statements in C.
3. State difference between structure and Union data type in C.
4. With examples differentiate use of break and continue statements.
5. What is meant by recursion ?
6. Differentiate global and local arguments.
7. What are the advantages of pointers ?
8. Write an algorithm for solving a transcendental equation using Bisection method.
9. Write Runge-Kutta fourth order method for the solution of ordinary differential equation.
10. Write the steps for solution of linear equation by Gauss elimination.



PART – B

Module – I

- | | |
|---|-----------|
| 11. a) Explain the operation of any two I/O devices used in digital computer. | 10 |
| b) Explain different data types in C. | 5 |
| c) Write a C program to print the Fibonacci series upto 100. | 5 |

OR



12. a) Define a structure called 'cricket' that will describe the following information Player name, Date of birth, batting average. Using cricket declare an array of cricket team with 11 players. Write a program to read information about all the 11 players and print teamwise list contains name of the player, date of birth and batting average. 12
- b) Write a C program to print the roots of a quadratic equation. 8

Module – II

13. a) Explain different types of functions, based on parameters passed between caller program and the function, with examples. 8
- b) Write a C program that multiply two matrices. Use function to read, print and multiply matrices. 12
- OR
14. a) Differentiate between 'call by value' and 'call by reference' in C. 8
- b) Write a C program to arrange the elements of an array in descending order by means of pointers. 12

Module – III

15. a) Explain the steps involved in finding the inverse of a matrix. 5
- b) Write a C program to solve a set of linear equation by Gauss Jordan method.
 $x + 2y + 3z = 9$
 $4x - 6y + 8z = 13$
 $3x + 4y + 5z = 40$
 Also find x, y and z. 15
- OR
16. a) Explain Simpson's $\frac{1}{3}$ rule for numerical integration. 8
- b) Evaluate $\int_0^1 (x^2 + \sin x) dx$ using Simpson's $\frac{1}{3}$ rule. Compare the result with Trapezoidal rule. Comment on the results. 12