Subject: Mathematics   **Course ID: 12165**
Course Code: Math-105C(Old)

Course Title: Numerical Analysis Practical using C-Programming (Old)

Full Marks: 30   **Time: 2 Hours**

<u>The figures in the margin indicate full marks</u>

Notations and symbols have their usual meaning

Answer any **one** question.

Question No			Marks Allotted
1	(i)	Write a C-program to find the power of a number (x^y).	5
	(ii)	Write a C-program to solve a system of linear equations by using the Gauss Jacobi iteration method.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
2	(i)	Write a C-program to find the GCD of two positive integers.	5
	(ii)	Write a C-program to solve system of linear equation by using Gauss elimination method.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
3	(i)	Write a C-program to find the maximum among some numbers.	5
	(ii)	Write a C-program to solve a system of linear equations using the Gauss Seidel iteration method.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
4	(i)	Write a C-program to test whether apositive integer is prime or not.	5
	(ii)	Write a C-program to solve an IVP by using Runge-Kutta method of order 2.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
5	(i)	Write a C-program to compute the sum of two matrices.	5
	(ii)	Write a C-program to solve system of linear equation by usingGauss-Jordan elimination method.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
6	(i)	Write a C-program to generate Fibonacci Series.	5
	(ii)	Write a C-program to solve an IVP by using Runge-Kutta method of order 4.	10

	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
7	(i)	Write a C-program to find the prime numbers between two positive integers.	5
	(ii)	Write a C-program to find the determinant of a square matrix.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
8	(i)	Write a C-program to perform matrix multiplication.	5
	(ii)	Write a C-program to convert a matrix into its row reduced echelon form.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
9	(i)	Write a C-program to find the average of 5 numbers.	5
	(ii)	Write a C-program to converta square matrix into diagonal matrix.	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7
10	(i)	Write a C-program to find the area of a triangle.	5
	(ii)	Write a C-program to find the Largest Eigenvalue by Power method	10
	(iii)	Lab notebook	8
	(iv)	Viva-Voce	7