National University of Sciences & Technology

School of Electrical Engineering and Computer Science

Department of Humanities & Sciences

MATH-351: Numerical Methods (3+0): 2k20-BEE-12CD Spring-2023

|  |  |
| --- | --- |
| Assignment # 3 | |
| CLO1: Explain the consequences of finite precision and describe the amount of error inherent in different Numerical methods.  CLO2: Define algorithms for different Numerical techniques.  CLO-3: Apply different computational techniques to solve Mathematical problems arising in engineering and sciences. | |
| Maximum Marks: 10 | Due date: 22nd May 2023 |

* **Perform all necessary steps in computing unknowns, otherwise marks will be deducted.**
* **Fix your calculator for 5 decimal places.**

**Question: Solve the differential equation by RK-4 (Runge-Kutta method of order 4) Method**

**and**

**Also compute approximate errors (absolute, relative absolute and percent relative absolute) for each iteration.**