**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

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| **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.  **CLO3:** Apply different computational techniques to solve Mathematical problems arising in engineering and sciences. | |
| Maximum Marks: 10 | Instructor: Dr. Rai Sajjad |
| Due Date: 22nd May 2023 | |

**Note: Perform all necessary steps 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)**

and

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

**Submission Details**

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| **Student Name** | **CMS ID** |
| Muhammad Umer | 345834 |
| **Total Marks** | **Marks Obtained** |
| 10 Marks |  |