

Assignment # 01**MTH603 (Summer 2024)**

Marks: 10

Due Date: 21.09 2024

DON'T MISS THESE: Important instructions before attempting the solution and submission of this assignment:

- Lectures 23-30 are encompassed in Assignment 1.
- Assignment 1 is due on 21 September 2024.
- Properly Upload the solution of this assignment in MS Word format on LMS as per the previous practice.

Question 1**[Marks 5]**

First construct the divided difference table and then find the interpolating polynomial of the following function $y = f(x)$ by Newton's Divided Difference Formula.

x	0	$\frac{\pi}{2}$	π
$y = f(x)$	0	1	0

Question 2**[Marks 5]**

Compute $f'(1.5)$, from the following tabular data using the forward difference formula for derivative.

x	1.5	2.0	2.5	3.0	3.5	4.0
$f(x)$	3.375	7.000	13.625	24.000	38.875	59.000