Quiz 03   **Duration: 20 min**
Semester: Summer 2024   **Full Marks: 10**

Name:	ID:	Section:

CSE 330: Numerical Methods
Set B

1. **[CO3]** The following Data set is generated by the function **f(x) = 2xsinx - 4cosx - xlnx**

x	f(x)
1.6	2.5634
1.7	3.0133
1.8	3.3566
1.9	3.6696
2	3.9155
2.1	4.0868

(a) (3+2 marks) Based on the above data, compute **f'(2)** using the **Forward Difference** method, and also calculate the **relative error**. Use 6 significant figures.

(b) (5 marks) Compute $D^{(1)}_{0.2}$ at **x = 1.8** using **Richardson extrapolation** method up to 5 significant figures.