Bayo-Dada Elisha
15/ENG02/011
Computer Engineering

# ASSIGNMENT I

(A)

$\therefore f(y) = g(y)$

$g(y) = 0$

$f(y) = \cos y$

$\cos y = 0$

Add $y$ to both sides

$y = \cos y + y$

$y_{i+1} = \cos y_i + y_i$

for

$i = 0$ ; $y_i = 0.05$

$i = 1$ ;

$y_{i+1} = \cos 0.05 + 0.05 = 1.0499$

$i = 2$ ;

$y_{i+1} = \cos 1.0499 + 1.0499 = 2.0497$

$i = 3$ ;

$y_{i+1} = \cos 2.0497 + 2.0497 = 3.0491$

$i = 4$ ;

$y_{i+1} = \cos 3.0491 + 3.0491 = 4.0476$

$i = 5$ ;

$y_{i+1} = \cos 4.0476 + 4.0476 = 5.0457$

| i | $y_i$ |
|---|---|
| 0 | 0.05 |
| 1 | 1.0499 |
| 2 | 2.0497 |
| 3 | 3.0491 |
| 4 | 4.0476 |
| 5 | 5.0451 |

(B)

$f(z) = e^{-15z} - z + \cos(z)$

$0 = e^{-15z} - z + \cos z$

$z = e^{-15z} + \cos z$

$z_{i+1} = e^{-15z_i} + \cos z_i$

| i | $y_i$ |
|---|---|
| 0 | 0.1 |
| 1 | 1.2231 |
| 2 | 0.9988 |
| 3 | 0.9998 |
| 4 | 0.9998 |
| 5 | 0.9998 |

for $i = 1$

$z_{i+1} = e^{-15(0.1)} + \cos 0.1$

$= 1.2231$

for $i = 2$

$z_{i+1} = e^{-15(1.2231)} + \cos(1.2231)$

$= 0.9998$

for $i = 3$

$z_{i+1} = e^{-15(0.9998)} + \cos(0.9998)$

$= 0.9998$

for $i = 4$

$z_{i+1} = e^{-15(0.9998)} + \cos(0.9998)$

$= 0.9998$

for $i = 5$

$z_{i+1} = e^{-15(0.9998)} + \cos(0.9998)$

$= 0.9998$