Numerical Methods - Spring Semester - 2021/2022

Question 1
Answer saved
Marked out of 1.25000
Flag question

Use Newton's Method to find the root of $x^4-5x^3+9x+3=0$ accurate to six decimal places in the interval [4,6].

Select one:
- a. 3.52912
- b. 4.52891796 ✓
- c. 1.5289081
- d. 5.528994

Question 2
Answer saved
Marked out of 1.25000
Flag question

Find the IEEE 754 Single precision is of 85.125

Select one:
- a. 0 10000101 01010100100000000000000 ✓
- b. 0 11000101 01010100100000000000000
- c. 0 10001101 01010100100000000000000
- d. 0 10000101 01010100000000000000000

Question 3
Not yet answered
Marked out of 0.25000
Flag question

Suppose we would like to determine the minimum number of iterations needed in the Bisection Algorithm, given to $a_0 = 3, b_0 = 4.5, and\ \epsilon = 10^{-5}$.

Select one:
- a. 17 iterations
- b. NA
- c. 20 iterations
- d. 18 iterations ✓

Question 4
Answer saved
Marked out of 0.25000
Flag question

Consider finding the root of $f(x) = x^2-3$ and start with the interval [1, 2] with N=3 iterations

Select one:
- a. 3.6875
- b. -1.6875
- c. 2.9475
- d. 1.6875 ✓

Question 5
Answer saved
Marked out of 0.25000
Flag question

What decimal number is represented by this word?
1 10000001 010000000000 ... 0000 = 32 bits

Select one:
- a. 6.0
- b. 5.0
- c. -6.0
- d. -5.0 ✓

Question 6
Answer saved
Marked out of 0.25000
Flag question

Find a solution of $x^3+1=0$ by Newton Method for $x_0 = -3\ and\ \epsilon < 5\%$

Select one:
- a. 1.0001
- b. -1.0001 ✓
- c. 2.0001
- d. -2.0001

Question 7
Answer saved
Marked out of 0.25000
Flag question

Using Bisection method find the root of $\cos(x) - x\,e^x = 0$ with a = 0 and b =1 , ε = 0.01

Select one:
- a. 1.517
- b. 0.917
- c. 0.517 ✓

Quiz navigation

Mohamed Sayed Ayad

1 2 3 4 5 6 7 8 9 10 11 12

Finish attempt ...

d. 0.617

Question 8
Answer saved
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Flag question

The equation $f(x)= e^{-x}-x = 0$ **Find the root of the function by using Fixed point iteration method with** $x_0 = 0.5 \; and \; \epsilon = 5\%$

Select one:
- a. 0.96007
- b. 0.66007
- c. 1.56007
- d. 0.56007

Question 9
Answer saved
Marked out of 0.25000
Flag question

Determine the absolute and relative errors when approximating p by when $p = 1.32 \times 10^2 \quad , p^* = 1.35 \times 10^2$

Select one:
- a. 25.2727%
- b. 2.2727%
- c. 12.2727%
- d. 0.29%

Question 10
Answer saved
Marked out of 0.25000
Flag question

Put $(11100101.1101)_2$ ***in single percision IEEE*** **754 standard.**

Select one:
- a. 1 10000101 11001011101000000000000
- b. 0 10000101 11001011101000000000000
- c. 0 10000110 11001011101000000000000
- d. 1 10000110 11001011101000000000000

Question 11
Answer saved
Marked out of 0.25000
Flag question

Find a solution of $f(x) = e^x - 1.5 - \tan^{-1} x = 0$ **by Newton Method for** $x_0 = -10 \; and \; \epsilon = 10^{-5}$

Select one:
- a. -12.101269
- b. -10.101269
- c. 14.101269
- d. -14.101269

Question 12
Answer saved
Marked out of 0.25000
Flag question

Using the fixed-point iterative method find a root of $f(x) = 4x^2 + 2x - 1$, $\varepsilon = 0.005 \;\; with \; interval \; [0, 1]$

Select one:
- a. 0.308
- b. 1.308
- c. 0.508
- d. 0.108

Finish attempt ...