Numerical Analysis

Internal exam

Name *

Sonali Sarjerao Sankpal

Roll number *

1233

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- [ ] A
- [ ] B
- [ ] C
- [x] D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\in_{k+1} = c \cdot \in_k$
B) $\in_{k+1} = c \cdot \in_{k-1}$
C) $\in_{k+1} = c \cdot \in_{k-1} \cdot \in_k$
D) $\in_{k+1} = c \cdot \in_{k-2} \cdot \in_k$

- ( ) A
- ( ) B
- (•) C
- ( ) D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ( ) A
- (•) B
- ( ) C
- ( ) D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- A
- B
- C (selected)
- D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- A (selected)
- B
- C
- D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Mrudula Goliwadekar

Roll number *

1208

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ◯ A
- ◯ B
- ◉ C
- ◯ D

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- ○ A
- ○ B
- ○ C
- ◉ D

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- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
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- A
- B
- (selected) C
- D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- A
- (selected) B
- C
- D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Pruthviraj vikas patil

Roll number *

1225

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

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D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
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C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k \to \infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ( ) A
- ( ) B
- (•) C
- ( ) D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- (•) A
- ( ) B
- ( ) C
- ( ) D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- A
- B
- C
- D (selected)

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- A
- B
- C
- D (selected)

Numerical Analysis

Internal exam

Name *

RUTURAJ BHARAT NEMISHTE

Roll number *

1221

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \frac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \frac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \frac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \frac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
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C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \, . \, \epsilon_k$

B) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1}$

C) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1} \, . \, \epsilon_k$

D) $\epsilon_{k+1} = c \, . \, \epsilon_{k-2} \, . \, \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c . \epsilon_k$

B) $\epsilon_{k+1} = c . \epsilon_k . \epsilon_{k-1}$

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- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2

B) At most 1

C) At most 4

D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Vidula Milind Patil

Roll number *

1229

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
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D) $x^2 + (1.9413)x + (1.9542)$

- ◯ A
- ◯ B
- ◉ C
- ◯ D

In Bairstow method Δp = ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

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D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

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D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ◯ A
- ◯ B
- ◉ C
- ◯ D

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B) Iterative Method
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- ◯ A
- ◯ B
- ◯ C
- ◉ D

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- ○ A
- ○ B
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A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
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Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
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- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
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- ( ) A
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B) At most 1
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D) At most 3

- ( ) A
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Numerical Analysis

Internal exam

Name *

Kolekar Shivani Tanaji

Roll number *

1218

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

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- ○ A
- ○ B
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- ○ A
- ○ B
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- ◉ D

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- [ ] A
- [ ] B
- [x] C
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- [x] D

Rate of convergence of Secant method is -------

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- [ ] A
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If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

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B) Approximate root
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- [ ] A
- [x] B
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- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

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- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

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- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Pragati prabhakar autade

Roll number *

1201

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- A
- B
- C (selected)
- D

Iterative method gives ------ root at a time.

A) Only One
B) Many
C) Two
D) None of these

- A (selected)
- B
- C
- D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c . \epsilon_k$

B) $\epsilon_{k+1} = c . \epsilon_k . \epsilon_{k-1}$

C) $\epsilon_k = c . \epsilon_{k+1}$

D) $\epsilon_{k+1} = c . \epsilon_k^2$

- [ ] A
- [ ] B
- [ ] C
- [x] D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2

B) At most 1

C) At most 4

D) At most 3

- [ ] A
- [ ] B
- [ ] C
- [x] D

Numerical Analysis

Internal exam

Name *

Vedika sanjay kadam

Roll number *

1212

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \, . \, \epsilon_k$
B) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1} \, . \, \epsilon_k$
D) $\epsilon_{k+1} = c \, . \, \epsilon_{k-2} \, . \, \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$
B) $\epsilon_{k+1} = c \,.\, \epsilon_k \,.\, \epsilon_{k-1}$
C) $\epsilon_k = c \,.\, \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \,.\, \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Shubham Tanaji Kamble

Roll number *

1215

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
- ( ) D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Rutuja Tanaji Patil

Roll number *

1226

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$
B) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1} \,.\, \epsilon_k$
D) $\epsilon_{k+1} = c \,.\, \epsilon_{k-2} \,.\, \epsilon_k$

- ( ) A
- ( ) B
- (•) C
- ( ) D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ( ) A
- (•) B
- ( ) C
- ( ) D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- A
- B
- C (selected)
- D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- A (selected)
- B
- C
- D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Sharad dhanaji patil

Roll number *

1227

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- A
- B
- C (selected)
- D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- A
- B (selected)
- C
- D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$
B) $\epsilon_{k+1} = c \,.\, \epsilon_k \,.\, \epsilon_{k-1}$
C) $\epsilon_k = c \,.\, \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \,.\, \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Shivani Anil Sutar

Roll number *

1237

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ( ) A
- ( ) B
- ( ) C
- (•) D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$

B) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1}$

C) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1} \,.\, \epsilon_k$

D) $\epsilon_{k+1} = c \,.\, \epsilon_{k-2} \,.\, \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order

B) Approximate root

C) Zero

D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [ ] C
- [x] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ( ) A
- ( ) B
- ( ) C
- (•) D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- (•) A
- ( ) B
- ( ) C
- ( ) D

Numerical Analysis

Internal exam

Name *

Shubhangi shivaji todakar

Roll number *

1238

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
- ( ) D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c . \epsilon_k$
B) $\epsilon_{k+1} = c . \epsilon_{k-1}$
C) $\epsilon_{k+1} = c . \epsilon_{k-1} . \epsilon_k$
D) $\epsilon_{k+1} = c . \epsilon_{k-2} . \epsilon_k$

- ( ) A
- ( ) B
- (•) C
- ( ) D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ( ) A
- (•) B
- ( ) C
- ( ) D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ( ) A
- ( ) B
- ( ) C
- (•) D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ( ) A
- ( ) B
- ( ) C
- (•) D

Numerical Analysis

Internal exam

Name *

Ashwini Ashok Jadhav

Roll number *

1210

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- A
- B
- C
- D (selected)

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$

B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$

C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$

D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order

B) Approximate root

C) Zero

D) Convergence

- [ ] A
- [ ] B
- [ ] C
- [x] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [ ] C
- [x] D

Iterative method gives ------ root at a time.

A) Only One
B) Many
C) Two
D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\in_{k+1} = c \,.\, \in_k$
B) $\in_{k+1} = c \,.\, \in_k \,.\, \in_{k-1}$
C) $\in_k = c \,.\, \in_{k+1}$
D) $\in_{k+1} = c \,.\, \in_k^2$

- ( ) A
- ( ) B
- ( ) C
- (•) D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- (•) A
- ( ) B
- ( ) C
- ( ) D

Numerical Analysis

Internal exam

Name *

Sakshi vijay bhosale

Roll number *

1203

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \frac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \frac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \frac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \frac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- [ ] A
- [ ] B
- [ ] C
- [x] D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \, . \, \epsilon_k$
B) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1} \, . \, \epsilon_k$
D) $\epsilon_{k+1} = c \, . \, \epsilon_{k-2} \, . \, \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c\,.\,\epsilon_k$

B) $\epsilon_{k+1} = c\,.\,\epsilon_k\,.\,\epsilon_{k-1}$

C) $\epsilon_k = c\,.\,\epsilon_{k+1}$

D) $\epsilon_{k+1} = c\,.\,\epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2

B) At most 1

C) At most 4

D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Vikas Maruti Patil

Roll number *

1230

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$

B) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1}$

C) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1} \,.\, \epsilon_k$

D) $\epsilon_{k+1} = c \,.\, \epsilon_{k-2} \,.\, \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order

B) Approximate root

C) Zero

D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$
B) $\epsilon_{k+1} = c \,.\, \epsilon_k \,.\, \epsilon_{k-1}$
C) $\epsilon_k = c \,.\, \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \,.\, \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Arvind Arjun Parit

Roll number *

1223

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ◉ B
- ○ C
- ○ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ◉ B
- ○ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ◉ B
- ○ C
- ○ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [ ] B
- [ ] C
- [x] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [ ] A
- [ ] B
- [x] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ○ A
- ◉ B
- ○ C
- ○ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ◉ B
- ○ C
- ○ D

Numerical Analysis

Internal exam

Name *

Poonam Pundalik Regade

Roll number *

1232

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- [ ] A
- [ ] B
- [ ] C
- [x] D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c . \epsilon_k$
B) $\epsilon_{k+1} = c . \epsilon_{k-1}$
C) $\epsilon_{k+1} = c . \epsilon_{k-1} . \epsilon_k$
D) $\epsilon_{k+1} = c . \epsilon_{k-2} . \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Manisha Bhimrao Kamble

Roll number *

1213

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
- ( ) D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \frac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \frac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \frac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \frac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- [ ] A
- [ ] B
- [ ] C
- [x] D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ( ) A
- ( ) B
- ( ) C
- (•) D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ( ) A
- ( ) B
- ( ) C
- (•) D

Numerical Analysis

Internal exam

Name *

Sonali Shankar Bate

Roll number *

1202

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \frac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \frac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \frac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \frac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- (•) A
- ( ) B
- ( ) C
- ( ) D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ○ C
- ◉ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ◉ C
- ○ D

Numerical Analysis

Internal exam

Name *

Abhijeet Bhagavan Shelake

Roll number *

1235

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ◯ A
- ◯ B
- ◉ C
- ◯ D

In Bairstow method Δp = ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ( ) A
- ( ) B
- ( ) C
- (•) D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c . \epsilon_k$
B) $\epsilon_{k+1} = c . \epsilon_{k-1}$
C) $\epsilon_{k+1} = c . \epsilon_{k-1} . \epsilon_k$
D) $\epsilon_{k+1} = c . \epsilon_{k-2} . \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ( ) A
- ( ) B
- ( ) C
- (•) D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ( ) A
- ( ) B
- ( ) C
- (•) D

Numerical Analysis

Internal exam

Name *

Shivaratna sunil jamboni

Roll number *

1211

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ( ) A
- ( ) B
- (●) C
- ( ) D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- (●) A
- ( ) B
- ( ) C
- ( ) D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ◯ A
- ◯ B
- ◯ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ◯ A
- ◯ B
- ◯ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Vipul Vijay Deokare

Roll number *

1206

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method Δp = ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ( ) A
- ( ) B
- ( ) C
- (•) D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- A
- B
- C (selected)
- D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- A
- B (selected)
- C
- D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c . \epsilon_k$
B) $\epsilon_{k+1} = c . \epsilon_k . \epsilon_{k-1}$
C) $\epsilon_k = c . \epsilon_{k+1}$
D) $\epsilon_{k+1} = c . \epsilon_k^2$

- ◯ A
- ◯ B
- ◯ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ◯ A
- ◯ B
- ◯ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Sharayu Dinkar Durugale

Roll number *

1207

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$

B) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1}$

C) $\epsilon_{k+1} = c \,.\, \epsilon_{k-1} \,.\, \epsilon_k$

D) $\epsilon_{k+1} = c \,.\, \epsilon_{k-2} \,.\, \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order

B) Approximate root

C) Zero

D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ( ) A
- (•) B
- ( ) C
- ( ) D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- (•) A
- ( ) B
- ( ) C
- ( ) D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$

B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$

C) $\epsilon_k = c \cdot \epsilon_{k+1}$

D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ( ) A
- ( ) B
- ( ) C
- (•) D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2

B) At most 1

C) At most 4

D) At most 3

- ( ) A
- ( ) B
- ( ) C
- (•) D

Numerical Analysis

Internal exam

Name *

Kajal Amar patil

Roll number *

1224

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
- ( ) D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- [ ] A
- [ ] B
- [ ] C
- [x] D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\in_{k+1} = c \cdot \in_k$
B) $\in_{k+1} = c \cdot \in_{k-1}$
C) $\in_{k+1} = c \cdot \in_{k-1} \cdot \in_k$
D) $\in_{k+1} = c \cdot \in_{k-2} \cdot \in_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ( ) A
- ( ) B
- (x) C
- ( ) D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- (x) A
- ( ) B
- ( ) C
- ( ) D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \, . \, \epsilon_k$
B) $\epsilon_{k+1} = c \, . \, \epsilon_k \, . \, \epsilon_{k-1}$
C) $\epsilon_k = c \, . \, \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \, . \, \epsilon_k^2$

- [ ] A
- [ ] B
- [ ] C
- [x] D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- [ ] A
- [ ] B
- [ ] C
- [x] D

Numerical Analysis

Internal exam

Name *

Mrunali Solapure

Roll number *

1236

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$

B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$

C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$

D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- ○ A
- ○ B
- ◉ C
- ○ D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ◉ B
- ○ C
- ○ D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c . \epsilon_k$
B) $\epsilon_{k+1} = c . \epsilon_k . \epsilon_{k-1}$
C) $\epsilon_k = c . \epsilon_{k+1}$
D) $\epsilon_{k+1} = c . \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

ASMITA CHOUGULE

Roll number *

1205

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
- ( ) D

In Bairstow method Δp = ----------

A) $\Delta p = \frac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \frac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \frac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \frac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- [ ] A
- [ ] B
- [ ] C
- [x] D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c . \epsilon_k$
B) $\epsilon_{k+1} = c . \epsilon_k . \epsilon_{k-1}$
C) $\epsilon_k = c . \epsilon_{k+1}$
D) $\epsilon_{k+1} = c . \epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Shruti Sunil Khochage

Roll number *

1217

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2{}_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
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C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
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- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c . \epsilon_k$

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- ◯ A
- ◯ B
- ◯ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2

B) At most 1

C) At most 4

D) At most 3

- ◯ A
- ◯ B
- ◯ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Pratibha Narayan Mane

Roll number *

1220

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
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D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
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In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

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D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

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D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
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- [ ] A
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If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ○ B
- ◉ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$
B) $\epsilon_{k+1} = c \,.\, \epsilon_k \,.\, \epsilon_{k-1}$
C) $\epsilon_k = c \,.\, \epsilon_{k+1}$
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- [ ] A
- [ ] B
- [ ] C
- [x] D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- [ ] A
- [ ] B
- [ ] C
- [x] D

Numerical Analysis

Internal exam

Name *

Revati shridhar pishte

Roll number *

१२३१

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
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D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method Δp = ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- [ ] A
- [ ] B
- [ ] C
- [x] D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

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- ○ A
- ○ B
- ◉ C
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D) Intermediate Value Theorem

- ○ A
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Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\in_{k+1} = c . \in_k$
B) $\in_{k+1} = c . \in_k . \in_{k-1}$
C) $\in_k = c . \in_{k+1}$
D) $\in_{k+1} = c . \in_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Aakanksha ingle

Roll number *

1209

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \cdot \epsilon_{k-1} \cdot \epsilon_k$
D) $\epsilon_{k+1} = c \cdot \epsilon_{k-2} \cdot \epsilon_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [x] B
- [ ] C
- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ( ) A
- ( ) B
- (•) C
- ( ) D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- (•) A
- ( ) B
- ( ) C
- ( ) D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
D) $\epsilon_{k+1} = c \cdot \epsilon_k^2$

- ◯ A
- ◯ B
- ◯ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ◯ A
- ◯ B
- ◯ C
- ◉ D

Numerical Analysis

Internal exam

Name *

DIGVIJAY ASHOK KHATKAR

Roll number *

1216

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) $<$ 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \, . \, \epsilon_k$
B) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1}$
C) $\epsilon_{k+1} = c \, . \, \epsilon_{k-1} \, . \, \epsilon_k$
D) $\epsilon_{k+1} = c \, . \, \epsilon_{k-2} \, . \, \epsilon_k$

- ( ) A
- ( ) B
- (•) C
- ( ) D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k \to \infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ( ) A
- (•) B
- ( ) C
- ( ) D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c\,.\,\epsilon_k$
B) $\epsilon_{k+1} = c\,.\,\epsilon_k\,.\,\epsilon_{k-1}$
C) $\epsilon_k = c\,.\,\epsilon_{k+1}$
D) $\epsilon_{k+1} = c\,.\,\epsilon_k^2$

- ○ A
- ○ B
- ○ C
- ◉ D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- ○ A
- ○ B
- ○ C
- ◉ D

Numerical Analysis

Internal exam

Name *

Ankita Mahipati Sathe

Roll number *

1234

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
- ( ) D

In Bairstow method $\Delta p =$ ----------

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B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
C) Direct Method
D) Intermediate Value Theorem

- ○ A
- ○ B
- ○ C
- ◉ D

Rate of convergence of Secant method is -------

A) $\in_{k+1} = c \,.\, \in_k$
B) $\in_{k+1} = c \,.\, \in_{k-1}$
C) $\in_{k+1} = c \,.\, \in_{k-1} \,.\, \in_k$
D) $\in_{k+1} = c \,.\, \in_{k-2} \,.\, \in_k$

- [ ] A
- [ ] B
- [x] C
- [ ] D

If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- [ ] A
- [ ] B
- [ ] C
- [x] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- ○ A
- ◉ B
- ○ C
- ○ D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- ◉ A
- ○ B
- ○ C
- ○ D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \, . \, \epsilon_k$

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- [ ] A
- [ ] B
- [x] C
- [ ] D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2

B) At most 1

C) At most 4

D) At most 3

- [ ] A
- [x] B
- [ ] C
- [ ] D

Numerical Analysis

Internal exam

Name *

Manisha sambhaji nirmale

Roll number *

1022

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
B) $x^2 + (1.0375)x + (0.5563)$
C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ( ) A
- ( ) B
- (•) C
- ( ) D

In Bairstow method $\Delta p =$ ----------

A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

B) $\Delta p = \dfrac{b_{n-2} c_n + b_{n-1}(b_n - c_n)}{c^2_{n-2} + c_{n-3}(b_n - c_n)}$

C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- (selected) A
- B
- C
- D

The formula of Newton – Raphson method is -------

A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

B) $x_{k+1} = x_0 - \frac{f(x_k)}{f'(x_k)}$

C) $x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$

D) $x_{k+1} = x_k + \frac{f(x_k)}{f'(x_k)}$

- ○ A
- ○ B
- ◉ C
- ○ D

If f(x) is continuous function in the interval $[a, b]$ & f(a).f(b) < 0 , then the equation f(x) = 0 has at least one real root or an odd number of real roots in (a,b) is known as ------

A) Bisection Method
B) Iterative Method
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- ◉ A
- ○ B
- ○ C
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Rate of convergence of Secant method is -------

A) $\epsilon_{k+1} = c \,.\, \epsilon_k$
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- ○ A
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If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
C) Zero
D) Convergence

- ○ A
- ○ B
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Newton - Raphson method is useable to ?

A) Algebraic equations only
B) Transcedental equations only
C) Both Algebraic and Transcendental equations
D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [x] B
- [ ] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [ ] A
- [ ] B
- [x] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
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C) $\epsilon_k = c \cdot \epsilon_{k+1}$
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- (selected) A
- B
- C
- D

If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has .... Positive roots.

A) At most 2
B) At most 1
C) At most 4
D) At most 3

- A
- (selected) B
- C
- D

Numerical Analysis

Internal exam

Name *

Abhishek Appasaheb Tambe

Roll number *

1239

Untitled Question

The quadratic factor of polynomial $x^4 + x^3 + 2x^2 + x + 1 = 0$, where $p_0 = 0.5$ and $q_0 = 0.5$ is ------

A) $x^2 + 2x + 9$
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C) $x^2 + (0.5563)x + (1.0375)$
D) $x^2 + (1.9413)x + (1.9542)$

- ○ A
- ○ B
- ◉ C
- ○ D

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A) $\Delta p = \dfrac{b_n c_{n-2} + b_{n-1}(b_{n-1} - c_{n-1})}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

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C) $\Delta p = \dfrac{b_n c_n + b_{n-1}(b_{n-2} - c_{n-2})}{c^2{}_n + c_{n-3}(b_{n-1} - c_{n-1})}$

D) $\Delta p = \dfrac{b_{n-1} c_{n-2} - b_n c_{n-3}}{c^2{}_{n-2} + c_{n-3}(b_{n-1} - c_{n-1})}$

- ○ A
- ○ B
- ○ C
- ◉ D

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A) $x_{k+1} = x_0 - \frac{f(x_0)}{f(x_k)}$

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- ( ) A
- ( ) B
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- [ ] A
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If $\{x_k\}$ is convergent sequence i.e. $\lim_{k\to\infty}\{x_k\} = x^*$ is root of f(x) = 0 and x_k is called ------- of f(x).

A) Order
B) Approximate root
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D) Convergence

- [ ] A
- [x] B
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- [ ] D

Newton - Raphson method is useable to ?

A) Algebraic equations only
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D) Both Algebraic and Transcendental equations and also used when roots are complex

- [ ] A
- [ ] B
- [x] C
- [ ] D

Iterative method gives ------ root at a time.

A) Only One

B) Many

C) Two

D) None of these

- [x] A
- [ ] B
- [ ] C
- [ ] D

Rate of convergence of Newton – Raphson method is

A) $\epsilon_{k+1} = c \cdot \epsilon_k$
B) $\epsilon_{k+1} = c \cdot \epsilon_k \cdot \epsilon_{k-1}$
C) $\epsilon_k = c \cdot \epsilon_{k+1}$
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- ( ) A
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If $f(x) = x^3 - 3x^2 + 4x - 5 = 0$ then the equation has ……. Positive roots.

A) At most 2
B) At most 1
C) At most 4
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- ( ) A
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