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Courses » Matrix Solvers Announcements **Course** Ask a Question Progress Mentor FAQ

Unit 4 - Week 3 : Unit 3

Course outline

How to access the portal

Week 1 : Unit 1

Week 2 : Unit 2

Week 3 : Unit 3

- Lecture 11 : Tridiagonal Matrix Algorithm
- Lecture 12 : Equations with Singular Matrices
- Lecture 13 : Introduction to Vector Space
- Lecture 14 : Vector Subspace
- Lecture 15 : Column Space and Nullspace of a Matrix
- Lecture Materials
- Quiz : Week 3 : Assignment
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Week 4 : unit 4

Week 3 : Assignment

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-09-05, 23:59 IST.**

1) 0 points

The percentage of discretization error for solving $\frac{d^2T}{dx^2} = 0$ by using finite central difference scheme with $\Delta x = \frac{1}{100}$ is

- a) 1%
- b) 0.01%
- c) Can't be estimated
- d) No error

No, the answer is incorrect.

Score: 0

Accepted Answers:

b) 0.01%

2) Which one is not true for TDMA algorithm 1 point

- a) It uses recursive relation
- b) The number of operations are usually less than Gauss elimination
- c) TDMA can be used as line solver in an ADI
- d) TDMA is applicable for symmetric matrices only

No, the answer is incorrect.

Score: 0

Accepted Answers:

d) TDMA is applicable for symmetric matrices only

3) A pentadiagonal matrix cannot be solved by using 1 point

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Week 8 : Unit 8

Week 9 : Unit 9

Week 10 : Unit 10

Week 11

Week 12

Download Videos

Assignment Solution

Interactive Session with Students

Score: 0

Accepted Answers:

d) TDMA

4) $\frac{d^2T}{dx^2} = c$ has non-unique solution if

1 point

- a) Both the boundaries have Dirichlet boundary condition
- b) One boundary is Dirichlet and other one is Neumann
- c) One boundary is mixed and other one is Neumann
- d) None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

d) None of the above

5) Solution exist for $Ax = b$ where $b \neq 0$ but it has non-unique solution then

1 point

- a) There are finite sets of value of x
- b) can be zero
- c) can have infinite values
- d) appears in complex conjugate

No, the answer is incorrect.

Score: 0

Accepted Answers:

c) can have infinite values

6) $Ax = 0$ has infinite solutions with x_1, x_2 as two such solutions then which one is not another solution of $Ax = 0$? (c_1 and c_2 are arbitrary constants)

1 point

- a) c_1x_1
- b) $x_1 + x_2$
- c) $x_1 + c_1$
- d) $c_1x_1 - c_1x_2$

No, the answer is incorrect.

Score: 0

Accepted Answers:

c) $x_1 + c_1$

7) The vectors $\begin{Bmatrix} 1 \\ 2 \\ 3 \end{Bmatrix}$ and $\begin{Bmatrix} 4 \\ 5 \\ 6 \end{Bmatrix}$ belongs to

1 point

- a) R^1
- b) R^2

-
- c) R^3
-
- d) R^∞

No, the answer is incorrect.

Score: 0

Accepted Answers:

c) R^3

8) The function $f(x)=\sin x$ belongs to

1 point

-
- a) R^1
-
- b) R^0
-
- c) R^∞
-
- d) Not a vector space

No, the answer is incorrect.

Score: 0

Accepted Answers:

c) R^∞

9) $Ax=b$ has no solution if

1 point

- a) lies in null space of A
- b) lies in row space of A
- c) lies in column space of A
- d) does not lie in column space of A

No, the answer is incorrect.

Score: 0

Accepted Answers:

d) does not lie in column space of A

10) If $\det(A)=0$ then

1 point

- a) $N(A)=0$
- b) $N(A) \neq 0$
- c) $N(A) \in C(A^T)$
- d) $N(A) \in C(A^T)$

No, the answer is incorrect.

Score: 0

Accepted Answers:

b) $N(A) \neq 0$

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