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Courses » **Matrix Solvers**

Announcements   **Course**   Ask a Question   Progress   Mentor   FAQ

Unit 1 - How to access the portal

Course outline

How to access the portal

○ How to access the home page?

○ How to access the course page?

○ How to access the MCQ, MSQ and Programming assignments?

○ Quiz : Assignment 0

Week 1 : Unit 1

Week 2 : Unit 2

Week 3 : Unit 3

Week 4 : unit 4

Week 5 : unit 5

Week 6 : unit 6

Week 7 : Unit 7

Week 8 : Unit 8

Week 9 : Unit 9

Week 10 : Unit 10

Week 11

Week 12

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Assignment Solution

Interactive Session with Students

Assignment 0

The due date for submitting this assignment has passed.   **Due on 2018-07-31, 23:59 IST.**
As per our records you have not submitted this assignment.

1)   *1 point*
Two coplanar vectors are denoted by $ai + bj$ and $ci + dj$. Then $det\begin{bmatrix} a & b \\ c & d \end{bmatrix} =$

○ a) Area of the triangle made by the vectors

○ b) area of parallelogram made by the vectors

○ c) both a and b

○ d) none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) area of parallelogram made by the vectors

2) A and B are two square matrices of same dimension then which one of the following holds true?   *1 point*

○ a) A-B = B-A

○ b) AB=BA

○
c) $(AB)^T = A^T B^T$

○
d) $(AB)^{-1} = B^{-1} A^{-1}$

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) $(AB)^{-1} = B^{-1} A^{-1}$

3) 3) For a matrix A_{mn} which of the following holds true?   *1 point*

○ a) Row rank of A = column rank of A

○ b) Row rank of A ≠ column rank of A

○ c) Rank A ≤ Max(m, n)

○ d) Rank A ≥ Min(m, n)

No, the answer is incorrect.
Score: 0

Accepted Answers:

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   b) Infinite solution

   c) Unique solution

   d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) Unique solution

5) For the following matrix find the determinant when θ = 45°   **1 point**

$$\begin{bmatrix} 1 & sin\theta & sin^2\theta \\ 1 & cos\theta & cos^2\theta \\ 1 & 2 & 4 \end{bmatrix}$$

   a) 1

   b) 2

   c) 0.5

   d) 0
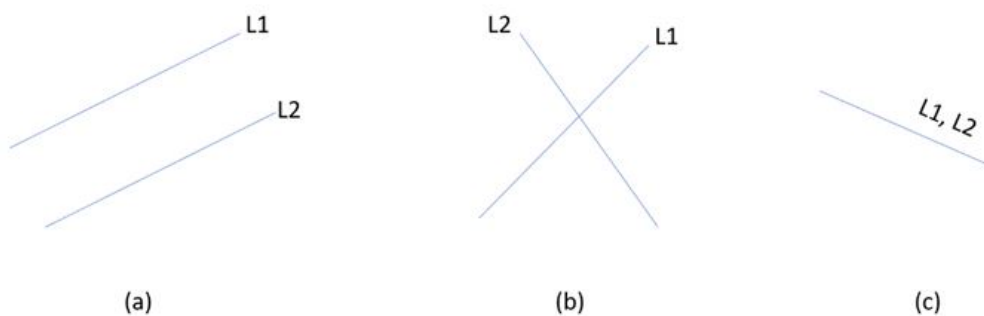
No, the answer is incorrect.
Score: 0

Accepted Answers:
d) 0

6) Consider the system of equations given be the two straight lines L1 and L2. Find which option is true   **1 point**

(a)   (b)   (c)

   a) a - no solution, b – unique solution, c – infinitely many solution

   b) b - no solution, a – unique solution, c – infinitely many solution

   c) a - no solution, c – unique solution, b – infinitely many solution

   d) c - no solution, b – unique solution, a – infinitely many solution

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) a - no solution, b – unique solution, c – infinitely many solution

7)
  7) The inverse of matrix $A = \begin{bmatrix} sin\theta & cos\theta \\ -cos\theta & sin\theta \end{bmatrix}$ is   **1 point**

   a) A

   b) A^T

   c) -A

   d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) A^T

8) A matrix equation $Ax = 0, x \neq 0$ implies that   **1 point**

a) A is symmetric matrix

b) A has at least one zero eigenvalue

c)x is a complex number vector

d) A is positive definite

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) A has at least one zero eigenvalue

9) An iterative method is used for solution of $Ax = b, x^{(k)}$ is the updated value of solution vector at $k - th$ iteration . Then the residual $b - Ax^{(k)}$ must   ***1 point***

   a) be zero at the first iteration

b) converge to zero for positive initial guess x^0

c) converge to zero for higher values of k for any initial guess x^0

   d) none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) converge to zero for higher values of k for any initial guess x^0

10) 10) If $Ax = b$, where $A = \begin{bmatrix} sin\theta & cos\theta \\ -cos\theta & sin\theta \end{bmatrix}$ and $b = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$ then x is   ***1 point***

a) $x = \begin{bmatrix} 1 & 0 \end{bmatrix}^T$

b) $x = \begin{bmatrix} sin\theta & cos\theta \end{bmatrix}^T$

c)$x = \begin{bmatrix} 0 & 1 \end{bmatrix}^T$

d) $x = \begin{bmatrix} cos\theta & sin\theta \end{bmatrix}^T$

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) $x = \begin{bmatrix} sin\theta & cos\theta \end{bmatrix}^T$

Previous Page   End