Müəllimin adı: Huseynova Günel Şamxal

Fənnin adı: Linear Algebra and Calculus

Qrupun nömrəsi: 1045

**Quiz 1**

**Mövzu 1 : Systems of Linear Equations**

1. Solve the 3x3 equations system by method of Gaussian Elimination.
2. Solve the 3x3 equations system by Cramer’s rule.
3. Solve the 3x3 equations system by matrix method.
4. A and B are matrices. Ifthen find 
5. A and B are matrices. Ifthen find 
6. Solve the 4x4 equations system by method of Gaussian Elimination.
7. Solve the 4x4 equations system by method of Gaussian Elimination.
8. Solve the 4x4 equations system by method of Gaussian Elimination.

**Mövzu 2: Matrices and Matrix Operations**

1. Find inverse of 3x3 matrix and check the answer. (Use formula to find inverse)
2. Find inverse of 3x3 matrix and check the answer. (Use Gauss-Jordan method)
3. A and D are 3x3 matrices.Calculate . (Use formula to find inverse).

**Mövzu 3: Determinants**

1. Calculate determinant 4x4.
2. Calculate determinant 4x4.
3. Calculate the 4x4 determinant equation.
4. Calculate the 4x4 determinant equation.

**Mövzu 4: Eigenvalues and Eigenvectors**

1. Then find eigenvalues and eigenvectors of this 3x3 matrix .
2. Then find eigenvalues and eigenvectors of this 3x3 matrix .
3. Then find eigenvalues and eigenvectors of this 3x3 matrix .
4. Then find eigenvalues and eigenvectors of this 3x3 matrix .

**Mövzu 5: Linear vector space**

1. Check the , ,  vectors systems are linearly independent or dependent.
2. Check the , ,  vectors systems are linearly independent or dependent.
3. Check the , ,  vectors systems are linearly independent or dependent.
4. Find the separation of vector by vectors , ,.
5. Find the separation of vector by vectors , ,.
6. Find the separation of vector by vectors , ,.

**Mövzu 6: Limit of a function**

1.Compute the limit.

2. Compute the limit.

3. Compute the limit.

4. Compute the limit.

**Mövzu 7: Continuity of a function**

1. Determine if the following function is continuous at point x*.*

2. Determine if the following function is continuous at point x*.*

3. Determine if the following function is continuous at point x*.*

4. Determine if the following function is continuous at point x*.*

**Mövzu 8: *The Definition of the Derivative***

1.Find the derivative of a function using the definition of a derivative.

2. Find the derivative of a function using the definition of a derivative.

3. Find the derivative of a function using the definition of a derivative.

4. Find the derivative of a function using the definition of a derivative.

**Mövzu 9: Differential of a function**

**1.** Compute the differential of given function.

**2.** Compute the differential of given function.

**3.** Compute the differential of given function

4. Find of given function.

**Mövzu 10: Higher order derivatives of a function**

**1.** Find of function.

2. Find the second order derivatives of following function

3. Find of y.

4. Find the second derivative of a parametric function.

5. Find the derivative of a parametric function.

6. Find the first second derivatives of given function

**Mövzu 11: Graphing and optimization**

1. Find a value of *c* such that the conclusion of this mean value theorem is satisfied for .
2. Find a value of *c* applying of Rolle’s theorem.
3. Find a value of *c* such that the conclusion of this mean value theorem is satisfied for .

**Mövzu 12: Infinite Series**

1. Determine if the series is convergent or divergent.
2. Determine if the series is convergent or divergent.
3. Determine if the series is convergent or divergent.

**Mövzu 13: Integrals**

1.Evaluate the integral .

2.Evaluate the integral.

3.Evaluate the integral.

4.Evaluate the integral.

**Mövzu 14 : Integrals (advanced topic)**

1.Evaluate the integral by partition formula.

2.Evaluate the integral.

3.Evaluate the integral.

4.Evaluate the integral.

5.Evaluate the integral.

6. Evaluate the integral.

**Mövzu 15: Differential equation**

1.Solve the separable differential equation.

2.Solve the linear differential equation.

3.Solve the linear differential equation.

4. Solve the linear differential equation.

5. Solve the linear differential equation.

6. Solve the linear differential equation.

**Mövzu 16: Functions of many variables**

1. Find all first order partial derivatives of function.

2. Find all first order partial derivatives of function.

3. Find all first order partial derivatives of function.

**Mövzu 17: *Taylor Polynomials and Approximations***

1. Find the Taylor Series for about 
2. Find the Taylor Series for about .
3. Find the Taylor Series for about .