**Algebra and Mathematical Analysis – 75 questions**

**Lecturer – assoc.prof. Mustafayeva Yelena**

Quiz-1

1. Solve the system by Gauss method:
2. Solve the system by Gauss method:
3. Find the eigenvalues and eigenvectors of the matrix.
4. Find the eigenvalues and eigenvectors of the matrix.
5. Find the eigenvalues and eigenvectors of the matrix.
6. Find the inverse matrix
7. Find the inverse matrix
8. Find the product of matrices
9. Find the product of matrices.
10. Find the product of matrices:
11. Build the fundamental system of solutions for the SLAE
12. Build the fundamental system of solutions for the SLAE
13. Build the fundamental system of solutions for the SLAE
14. Build the fundamental system of solutions for the SLAE
15. Calculate the determinant .
16. Calculate the determinant
17. Find if the vectors are linear dependent:
18. Find the basis in the system of the vectors
19. Find the coordinates of the vector in basis.
20. Find the rank of the matrix.
21. At which value of  the rank of the matrix is equal to .. ?

Quiz-2

1. Investigate for continuity the function at the given point: at point.
2. Investigate for continuity the function at the given point: at point.
3. Investigate for continuity the function at the given point: at point.
4. Find the points of discontinuity and determine the types of discontinuities **.**
5. Find the points of discontinuity and determine the types of discontinuities .
6. Find the points of discontinuity and determine the types of discontinuities
7. Find the points of discontinuity and determine the types of discontinuities
8. Find the limit
9. Find the limit.
10. Find the limit.
11. Find the limit
12. Find limit by L’Hospital rule.
13. Find limit .
14. Find the derivative of function.
15. Find the derivative of function .
16. Find the derivative of function .
17. Find the extremum of
18. Find the extremum of
19. Find the extremum of
20. Find asymptotes of the function .
21. Find the asymptotes of the function
22. Find the asymptotes of the function
23. Find the intervals of convexity of the function
24. Find the intervals of convexity of the function
25. Find the intervals of convexity of the function

Quiz-3

1. Find the derivative of function.
2. Find the derivative of function.
3. Find extremum of the function of two variables
4. Find extremum of the function of two variables
5. Find extremum of the function of two variables
6. Find the extremum of function of one variable
7. Find the extremum of function of one variable .
8. Find the asymptotes of function .
9. Find the asymptotes of function **.**
10. Find the intervals of convexity of the function
11. Find the intervals of convexity of the function
12. Find the intervals of convexity of the function
13. Find the extremum of function of one variable
14. Find the indefinite integral
15. Find the indefinite integral
16. Find the indefinite integral.
17. Find the improper integral
18. Find the improper integral
19. Find the improper integral
20. Find the improper integral . .
21. Find the improper integral .
22. Find the limit of the function of two variables
23. Find the limit of the function of two variables
24. Find the limit of the function of two variables
25. Find the limit of the function of two variables
26. Find the constrained extremum of the function on the condition .
27. Find the constrained extremum of the function on the condition .
28. Find the constrained extremum of the function on the condition .
29. Find the constrained extremum of the function on the condition .