19MMU111	**CALCULUS - PRACTICAL**	**3H – 2C**
Instruction Hours / week: L: 0 T: 0 P: 3	**Marks:** Internal: **40**	External: **60** Total: **100**
		End Semester Exam: 3 Hours

Course Objectives

This course enables the students to learn

- To demonstrate comprehension in relevant area of calculus
- Problem solving through (computer language) programming.

Course Outcomes (COs)

On successful completion of this course, the student will be able to

1. Familiarize with the programming environment.
2. Acquire the problem solving skills through computer programming.
3. Understand to write diversified solutions using programming language.

List of Practical (**Any 8 programs)**

1. Plotting of graphs of function e^{ax+b}, log(ax + b), 1/(ax + b), sin(ax + b), cos(ax + b), |ax + b| and to illustrate the effect of a and b on the graph.

2. Plotting the graphs of polynomial of degree 4 and 5, the derivative graph, the second derivative graph and comparing them.

3. Sketching parametric curves (Eg. Trochoid, cycloid, epicycloids, hypocycloid).

4. Obtaining surface of revolution of curves.

5. Tracing of conics in cartesian coordinates/ polar coordinates.

6. Sketching ellipsoid, hyperboloid of one and two sheets, elliptic cone, elliptic, paraboloid, hyperbolicparaboloid using cartesian coordinates.

7. Matrix addition.

8. Matrix multiplication.

9. Inverse of a matrix.

10. Transpose of a matrix

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Section 3 of UGC Act 1956)
Coimbatore – 641 021.

LIST OF PRACTICAL

S. No	Title
1.	Plotting of graphs of function $e^{ax + b}$, log(ax + b), 1/(ax + b), sin(ax + b), cos(ax + b), |ax + b| and to illustrate the effect of a and b on the graph
2.	Plotting the graphs of polynomials of degree 4 and 5, the derivative graph, the second derivative graph and comparing them.
3.	Sketching parametric curves (Eg. Trochoid, cycloid, epicycloids, hypocycloids)
4.	Tracing of conics in Cartesian coordinates / polar coordinates
5.	Matrix Addition
6.	Matrix Multiplication
7.	Inverse of a matrix
8.	Transpose of a matrix

PATTERN OF CIA & ESE

PATTERN OF CIA MARKS ALLOCATION:

S. No	Category	Maximum Marks
1.	Attendance	5
2.	Observation work	5
3.	Record work	5
4.	Model Examination	20
5.	Viva – voce [comprehensive]*	5
	Continuous Internal Assessment: Total	40

PATTERN OF ESE MARKS ALLOCATION:

S. No	Category	Maximum Marks
1.	Experiments	40
2.	Record	10
3.	Viva – voce	10
	End Semester Examination: Total	60